

North Central Region, Area 2

Integrated Roadside Vegetation Management Plan

October 2005



**Washington State
Department of Transportation**
Maintenance and Operations Division

Summary

The Washington State Department of Transportation (WSDOT) manages approximately 840 miles of roadside right-of-way throughout Grant, Adams and Franklin counties. This right-of-way is part of the state highway system including Interstate 90, US 395, US 12, SR 17, 26, 24 as well as a number of other state routes in the area. A map of state highways and routes in this area is attached on the following page.

As a landowner in this area WSDOT is required to control all listed noxious weeds that occur on this right-of-way by state law (RCW 17.10 and 15.15.010). It is important to WSDOT to not only meet the legal requirements, but also to consider the needs and concerns of adjacent landowners in this area.

In order to better manage these roadsides WSDOT is in the process of developing an Integrated Vegetation Management Plan (IRVM) for this area. This plan will serve as the primary guidance document for maintenance of roadsides in this area and will provide detailed weed control and planting guidance as well as overall policy and procedures. This plan supports WSDOT's long-range goals of managing these roadsides to:

- Reduce maintenance costs
- Improve weed control
- Enhance roadside vegetation by providing stable, sustainable plant communities

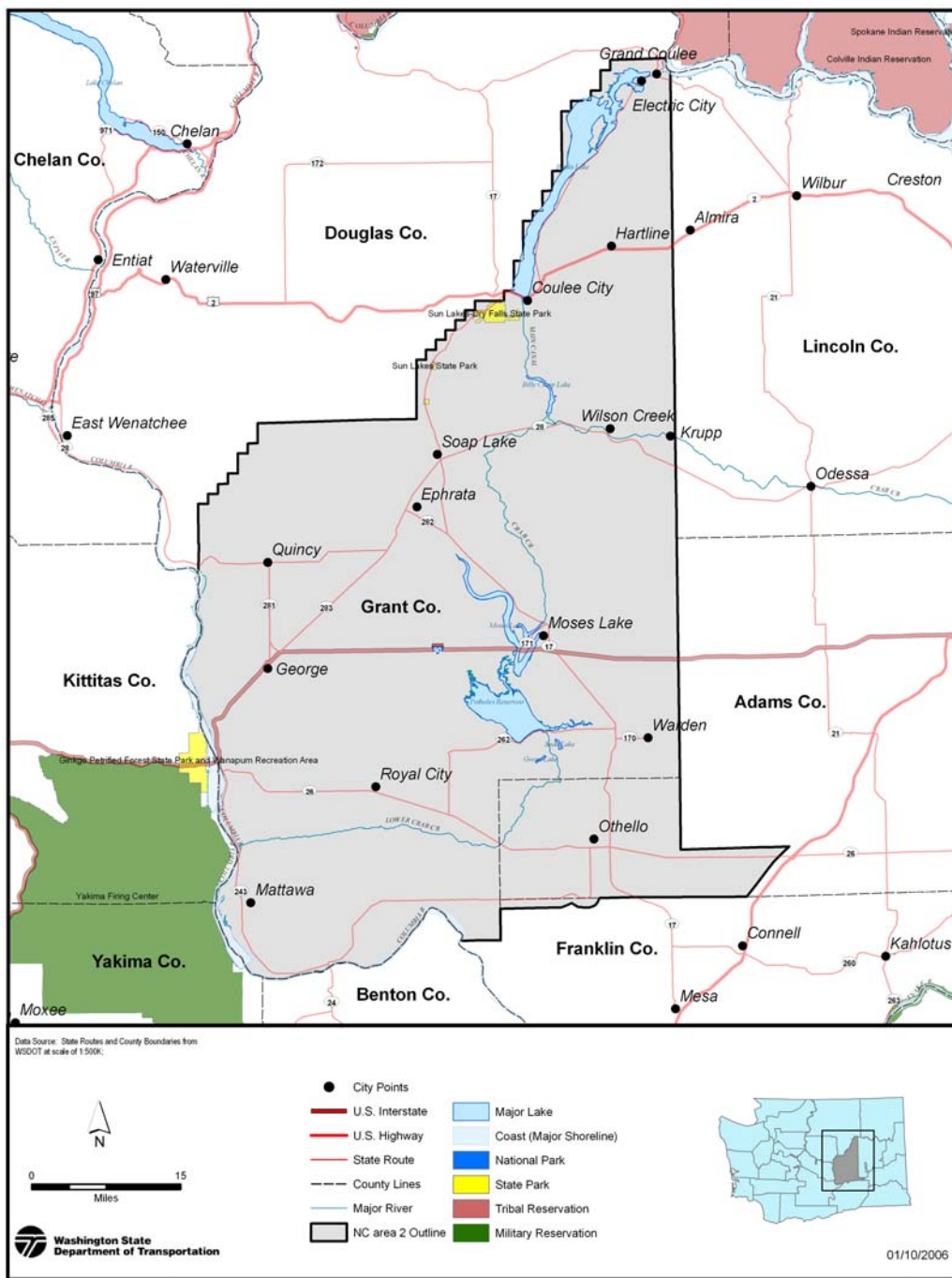
The attached plan consists of four main sections, 1) introduction, 2) description of roadside concepts and WSDOT policies, 3) the main body of the plan document and 4) the appendices. The "**Introduction**" provides a background that has lead to the development of the plan as well as references to other pertinent guidance documents. The "**Description Section**" deals with roadside character and maintenance considerations and gives the reader an overall understanding the WSDOT roadside program. The "**Plan**" is the main body of the document and includes detailed descriptions of specific maintenance activities, policies and objectives. The "**Appendices Section**" contains prescriptions for weed control and revegetation, noxious and nuisance weed locations, locations of special maintenance areas, forms and records, and a list of local public and private stakeholders.

This plan is a dynamic document that will be developed and updated over time with input from a variety of sources. WSDOT will be requesting comments and suggestions from local private and public entities during 2005-2006 by public notifications, letters and personal communications. A working draft version of the IRVM plan will be accessible in an electronic form at <http://www.wsdot.wa.gov/maintenance/vegetation/default.htm> or available in hard copy upon request. Please contact Gary Haag, Lionel Heinold or James Morin at the numbers listed below for questions or comments.

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North Central Region, Area 2 Vicinity Map
Figure 1

Introduction

The Washington State Department of Transportation (WSDOT) has completed a Programmatic Environmental Impact Statement on its roadside vegetation management program. This study responded to a wide spectrum of public comment with the selection of a preferred alternative titled Locally Based, Long-Term Planning Integrated Vegetation Management. Integrated Vegetation Management (IVM) is a decision making process that applies the principles of Integrated Pest Management as defined in state law (RCW 17.15.010) to the management of roadside vegetation.

The successful implementation of IVM, within the WSDOT maintenance program, is dependent on the development of a statewide roadside management planning system, incorporating site-specific roadside vegetation management plans for all highways in the state. Success within the maintenance program is also dependent on allocation of sufficient funding to accomplish vegetation maintenance activities as described in this plan for NC Region, Area 2. In the long-term, successful implementation statewide is dependent on the allocation of funding through project development and construction for roadside restoration work in conjunction with projects.

This document serves to facilitate the implementation of the preferred alternative from the EIS, compliance with RCW 17.15.010 and the intent of The Puget Sound Highway Runoff Program (WAC 173-270), and state policy for roadside management as defined in the Roadside Classification Plan (WSDOT 1996), for the state highways in NC Region, Area 2. It defines the vegetation maintenance processes and agreed upon long-term goals and objectives for roadside vegetation specific to state highways NC Region, Area 2. This plan and the statewide IVM planning system are intended for use primarily within the WSDOT maintenance program. The goal in developing and implementing this plan is to achieve the best and most consistent roadside maintenance practices throughout the corridors in NC Region, Area 2 and to maximize the efficiency and effectiveness of maintenance program delivery over time. Success in meeting this goal will be measured by the improvement of the overall health of the roadside, a resulting minimization of roadside vegetation maintenance costs and a corresponding minimization of herbicide use over time.

WSDOT Roadside Policy

WSDOT's management of roadside vegetation is carried out through two separate but coordinated programs. Policy and practice in roadside design and development is intended to compliment and support policy and practice in roadside maintenance over the long-term.

A complete description of WSDOT's roadside maintenance policy, typical roadside management zones, and listing of all functional objectives can be found in Chapter 6 of the 2002 **Maintenance Manual** (WSDOT M51-01, March 2002). Policy specific to the various roadside management zone objectives for NC Region, Area 2 can be found in the section of this document titled Maintenance Activities and referenced appendices. More information on the application of IVM for Roadside can be found in the document **Integrated Vegetation Management for Roadside** (WSDOT, July 1997). These documents also contain guidance for policy and procedures relating to vegetation maintenance aspect in storm water management as described in the **Highway Runoff Manual** (WSDOT M31-16, February 1995). Definition of maintenance practices within designated Environmentally Sensitive Areas can be found in the **Regional Road Maintenance Endangered Species Act Program Guidelines**, (Regional Road Maintenance Technical Working Group, Current Version)

For project development and construction, WSDOT roadside policy is defined in the **Roadside Manual** (WSDOT M25-30, July 2002), and the **Roadside Classification Plan** (WSDOT 1996).

Consultation with Other Agencies and the Public

WSDOT is consulting with the Washington State Department of Ecology on its overall roadside vegetation management program as it relates to storm water runoff. WSDOT has also

participates in the Interagency Integrated Pest Management Coordinating Committee, established under RCW 17.15 and chaired by the Washington State Department of Agriculture.

In the process of developing and implementing the plan for NC Region, Area 2, WSDOT will meet as necessary with the general public, local government, and any local special interest groups to collect input on the plan, and make adjustments where possible to address local concerns.

Additional References

Additional information and copies of the documents referenced in this plan are available through the Internet at addresses listed below, or by contacting the WSDOT Headquarters Highway Maintenance Office at: PO Box 47358, Olympia, WA 98504-7358, or (360) 705-7850.

Roadside Maintenance Program information:

<http://www.wsdot.wa.gov/maintenance/vegetation/>

Roadside and Site Development Program information:

<http://www.wsdot.wa.gov/eesc/design/roadside/>

Roadside Vegetation Management Programmatic Environmental Impact Statement:

http://www.wsdot.wa.gov/maintenance/pdf/Roadside_Vegetation_Management_12-93.pdf

WSDOT Maintenance Manual:

<http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/MaintenanceManual.pdf>

Integrated Vegetation Management for Roadsides:

<http://www.wsdot.wa.gov/maintenance/vegetation/>

Highway Runoff Manual:

<http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/HighwayRunoff2004.pdf>

Regional Road Maintenance Endangered Species Act Program Guidelines:

<http://www.wsdot.wa.gov/maintenance/roadside/esa.htm>

WSDOT Design Manual:

<http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/DesignManual.pdf>

WSDOT Roadside Manual:

<http://www.wsdot.wa.gov/fasc/engineeringpublications/Manuals/RoadsideManual.pdf>

WSDOT Roadside Classification Plan:

http://www.wsdot.wa.gov/eesc/design/roadside/pdf/RCP_1.pdf

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Roadside Character

The roadside in NC Region, Area 2 is predominately rural, or open shrub-steppe in character with the landscape consisting of natural or agricultural mixed with some farms and orchards. A number of semi-urban classifications exist around the towns in the area where built elements are more common. Natural vegetation in this area consists of low growing, drought tolerant bunch grasses and shrubs. Precipitation in is very low during summer months typically not reaching more than 6-8 inches throughout NC Region, Area 2. Roadside vegetation maintenance practices are intended to highlight and enhance the natural character of the visual environment while maintaining operational needs and controlling invasive plant species.

Visual Standards

Implementation of this management plan will have minor, positive impacts on the visual quality of highway corridor over time. The plan is intended to direct activities and practices to encourage the establishment of desirable roadside vegetation and to reduce lifecycle maintenance costs. It is also intended to reduce populations of noxious and nuisance weeds over time in areas where they have become established, which will have a positive impact on visual quality.

Visual quality is an important consideration in roadside vegetation management, especially along highly scenic corridors. This Maintenance Area contains the Coulee Corridor Scenic Byway on State Highway 17 from State Highway 395 to Brewster. Vegetation management practices along this highway will maintain the overall natural appearance of this character type through the management of predominately native vegetation. In areas where native plants are not appropriate, care will be taken to establish plant communities that maintain a natural appearance. Maintenance activities in areas outside of the vegetation free zone at the pavement edge (Zone 1) will encourage grasses and stable native plant communities through the selective removal of competitive noxious and nuisance weeds.

Over time, implementation of this management plan will alter the appearance of the existing roadside landscape in many areas by gradually removing large stands of non-native nuisance vegetation that currently dominate certain sections of WSDOT roadsides. This will result in an improvement of the visual quality of these areas by reestablishing and/or enhancing native plant communities.

Roadside Maintenance Considerations

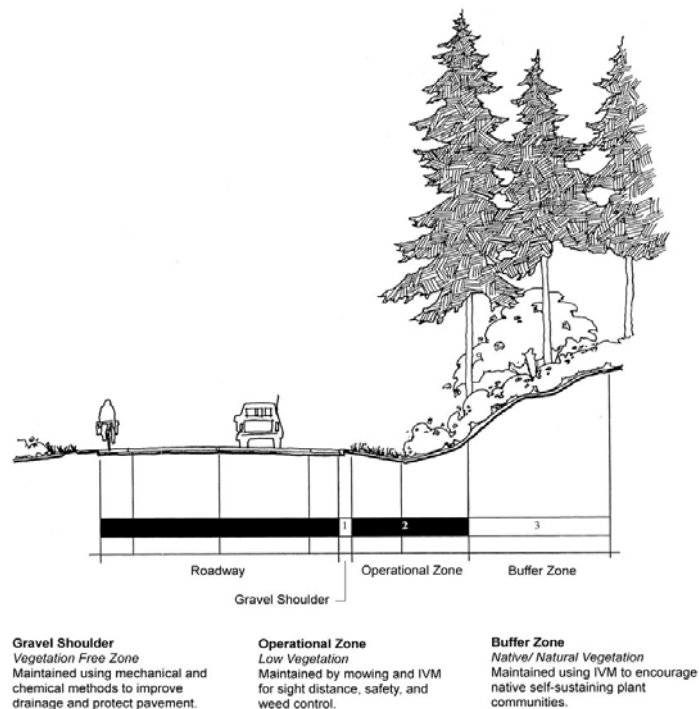
Operational Zones

WSDOT roadsides are divided into several zones for the purposes of assigning management objectives, maintenance intensities, and thresholds for triggering vegetation maintenance actions. Noxious weed species designated for control by state and county law are controlled throughout all zones. As per the WSDOT **Maintenance Manual** (M51-01, March 2002), roadside vegetation management zones are as follows:

Zone 1 – Where necessary, a vegetation free gravel shoulder is maintained as a 4'-foot wide strip to provide for key operational, safety and pavement preservation needs.

Zone 2 – The operational zone extends from the edge of Zone 1, or the pavement edge, to a width necessary to provide for safe errant vehicular recovery, maintain sight distance at corners and intersections, and provide for other operational, safety, and environmental functions.

Zone 3 – In areas with sufficient right-of-way width, a buffer or transition zone extends from Zone 2 to the right-of-way line to provide a buffer or transitional area between the highway facility and adjacent land uses. This area is maintained selectively, and to the greatest degree possible as a self-sustaining plant community, to minimize erosion as well as the growth of weeds and undesirable trees and brush.



Typical Roadside Vegetation Management Zones
Figure 2

Not all maintenance zones will occur along state highway on NC Region, Area 2. In many cases the narrow width of the right-of-way or adjoining land-use, limits the operational zones to Zone 1 and a narrow Zone 2 only.

Special Considerations

Environmental Sensitive Areas

In response to the Endangered Species Act and the listing of threatened and endangered aquatic species in Washington State, current WSDOT policy provides for a 300-foot buffer around designated sensitive areas where certain maintenance activities are modified to reduce impacts on natural aquatic systems. There are numerous locations where the highway comes within 300' of priority sensitive aquatic habitat in NC Region, Area 2. Priority sensitive aquatic habitats are defined as medium to high quality wetlands, standing water bodies, and streams and rivers, within the ordinary high water mark. With regard to vegetation management and the use of herbicides, the methods and procedures as defined by WSDOT policy and the contents of this plan will serve to help minimize the impact of the highway and maintenance operations on the environment within these 300' buffers. These buffers have been identified in tabular and map form as well as marked and identified on the roadsides.

Herbicide sensitive Areas

An Herbicide Sensitive Areas consist of all locations within 60' of salmon bearing streams or water body. Herbicide Sensitive Areas as described in court order of Washington Toxics Coalition vs. EPA (<http://www.epa.gov/EPA-PEST/2004/March/Day-24/p6610.htm>) occur throughout this maintenance area. Only approved herbicides will be used in these areas (<http://agr.wa.gov/PestFert/EnvResources/Buffers.htm#maps>).

Special Maintenance Areas

This plan also defines and identifies areas with unique roadside maintenance requirements or where arrangements exist due to the surrounding land use, neighbor concerns or specific highway related functions. Special maintenance areas in NC Region, Area 2 include highway roadsides sections with agreements for maintenance by neighbors. These areas are further defined in **Special Maintenance Areas, Section 3**.

Public Notification of Herbicide Applications

WSDOT is required by law to notify chemically sensitive individuals on file with Washington State Department of Agriculture, where the residing property abuts the highway right of way and the residence is within ½ mile of the property line. Notification to chemically sensitive individuals is accomplished by letter and/or phone conversation prior to each application. For specific herbicide application schedules, the roadside vegetation maintenance supervisor can be reached at 509.765.6145.

Herbicide Safety

When applying herbicides WSDOT takes precaution to avoid any impact on human and environmental health, and to ensure herbicides do not move off target. Applications are made only by trained and licensed employees following all state and federal regulations as well as all recommendations and restrictions given on the individual product labels as approved by the US Environmental Protection Agency.

WSDOT has also conducted a risk assessment for the herbicide products and application methods used on state highways. Toxicological impacts of WSDOT practices were evaluated for human health (both operators and the general public), for aquatic ecosystems, and terrestrial wildlife. The findings of this assessment are summarized in a series of fact sheets for the individual herbicides used by WSDOT. These fact sheets can be viewed and downloaded through the Internet at: http://www.wsdot.wa.gov/biz/maintenance/htm/risk_assessment.htm, or copies may be obtained by calling the WSDOT Headquarters Maintenance Office at (360) 705-7850.

WSDOT Employee Training and Education

Perhaps the most important key to success in the implementation of this plan is the education and training of the maintenance employees responsible for delivery of the program on a day-to-day basis. This plan and the information resources it provides is intended to supplement and enhance existing training and education opportunities already in place. Training and education for employees engaged in delivery of the roadside vegetation management NC Region, Area 2 will include:

- Participation in an annual one-day spring review of vegetation management needs and activities from the previous year, and planning for the coming year, including the maintenance crew(s), supervisor, and area maintenance superintendent and/or assistant superintendent.
- Development of a field guide using representative photographs taken along the highway in NC Region, Area 2 to illustrate key aspects of IVM treatment. This will be developed over the first several years of plan implementation.
- Attendance at the annual statewide WSDOT Roadside Vegetation Management Workshops, where there is a focus on IVM tools and procedures, proper and safe use of herbicides, and lessons learned from around the state.
- Ongoing participation and communication with the public and private sector. This includes involvement in local weed board meetings, public events as well as communication with neighboring landowners and municipalities.

Roadside Design and Construction Considerations

Highway and utility construction in many cases has a significant impact on drainage, soils and vegetation adjacent to the paved roadway. WSDOT policy and practice for restoring the operational, environmental and visual functions disturbed by construction is based on the guidelines found in the Roadside Classification Plan (RCP) (WSDOT 1996), and the Roadside Manual (WSDOT M25-30, July 2002).

Internal agency coordination between the Design, Construction, and Maintenance programs is imperative to a comprehensive roadside vegetation management plan. A commitment to increasing communication in these areas is an important component in an ongoing effort to reduced lifecycle costs and improve roadside vegetation. This commitment has been recognized and agreed to by the regional management team.

Below is a list of design/construction projects that may have impacts to roadsides in the next 2-4 years:

- SR 17 MP 21.80 to 27.79 2006 Paver
- SR 26 MP 1.17 to 42.56 2007 Paver
- WSDOT North Central Region Projects Link:
<http://www.wsdot.wa.gov/regions/northcentral/projects/>

Below is a list of permitted utility projects in the North Central Region, Area 2 that are scheduled for construction within the next 2-4 years.

- *There are no utility construction contracts planned for the near future.*

Vegetation Management Overview

Control and management of roadside vegetation is an on-going cycle, and a resource intensive process. This plan is intended to help guide vegetation management activities through a series of steps that includes:

1. Identification and location of environmentally sensitive areas and areas with special vegetation maintenance considerations
2. Definition, locations, methods, and timing for carrying out annual vegetation maintenance activities
3. Definition, identification, and locations of all vegetation problems requiring treatment using the Integrated Vegetation Management (IVM) decision-making process and recommended, species-specific, best management practices (BMP) along with the ongoing monitoring and evaluation of treatments in these locations

The detailed description of vegetation management activities for the NC Region, Area 2 is included in this document in the following sections: Section 1, Routine Maintenance Activities, page 15; Section 2, IVM Activities page 16 and Section 3, Special Maintenance Areas, page 24. Prescriptions for routine maintenance activities and IVM treatment options are included in **Appendix A**.

NC Region, Area 2 Management recognizes and supports the general IVM concepts of decision making as described in Chapter 1 of the WSDOT Manual, **Integrated Vegetation Management for Roadsides**. This process involves evaluating and selecting appropriate control methods including; chemical, cultural, mechanical and biological to improve long term control of noxious and nuisance weeds. In support of this goal several revegetation projects are on-going, including the George and Murphy's Corner interchange projects on I-90 in the vicinity of MP. 174. These projects alone represent approximately 22 acres of roadside that will be rehabilitated with native vegetation. Several other test plots are in various stages of establishment and evaluation in the Areas as well. The general goal of these test and revegetation plots is to provide effective noxious and nuisance weed control while developing sustainable, low cost roadsides. These plots will also give WSDOT an opportunity to evaluate planting methods, species selection and site maintenance techniques. As experience increases and time and funds become available, these techniques will be applied to other roadsides locations as appropriate. A description and list of these test plots are found in Table 3.3 of this document, page 26 and in Appendix C.

Annual Vegetation Maintenance Cycle

Vegetation management activities typically begin each year in the spring and continue through the fall, with some activities such as danger tree removal and some tree and brush control activities occurring throughout the year. An overview of a typical roadside maintenance season is as follows:

Early Spring

At the start of the active growing season, maintenance technicians apply a band of soil-residual, non-selective herbicide at the edge of the pavement on most roadsides. This results in a vegetation free zone approximately 4' wide. These treatments are further described in Section 1 and Appendix A of this document.

Spring and Summer

Throughout the growing season roadside maintenance activities are focused on controlling noxious and nuisance weeds in zone 2 and 3. Monitoring also occurs throughout this time to identify new areas or situations requiring treatment, and to evaluate treatments made earlier in the year or in the previous season. Weed control activities are dependent on timing in relation to the growth and lifecycle of the weeds or undesirable vegetation being treated. These activities are conducted in accordance with the IVM treatment plans for each location, following the management prescriptions described in Sections 1, 2 and Appendix A. All IVM activities are documented, monitored and evaluated using the forms in the IVM Planning and Treatment Database.

Selective mowing activities during this period are focused on eliminating weed skeletons in an effort to get better control of newly sprouting weeds and controlling weed seed production. This type of mowing typically takes place in late April-May and is focused primarily on heavy infestations of noxious and nuisance weeds. Mowing height is held to a minimum of 8" above ground in an effort to limit contact with the ground or damage desirable plants. Some selective mowing or trimming for site distance occurs on an as needed basis. Refer to Section 2.2 and Appendix A for more information on mowing.

Fall and Winter

Activities in the fall and winter are limited to some selected mowing of tall weeds if needed. This may facilitate better weed control in the following spring by eliminating the over-story of dead weeds. In selected areas a band of residual chemicals may be applied to road shoulders. These activities are conducted as time allows given other highway maintenance needs and accomplishment of weather dependent winter maintenance operations. These activities will be conducted in accordance with the documented long-term IVM treatment plans following the management prescriptions described in Appendix A and under NC Region, Area 2 **Roadside Vegetation Management Plan**, in Sections 1 and 2.

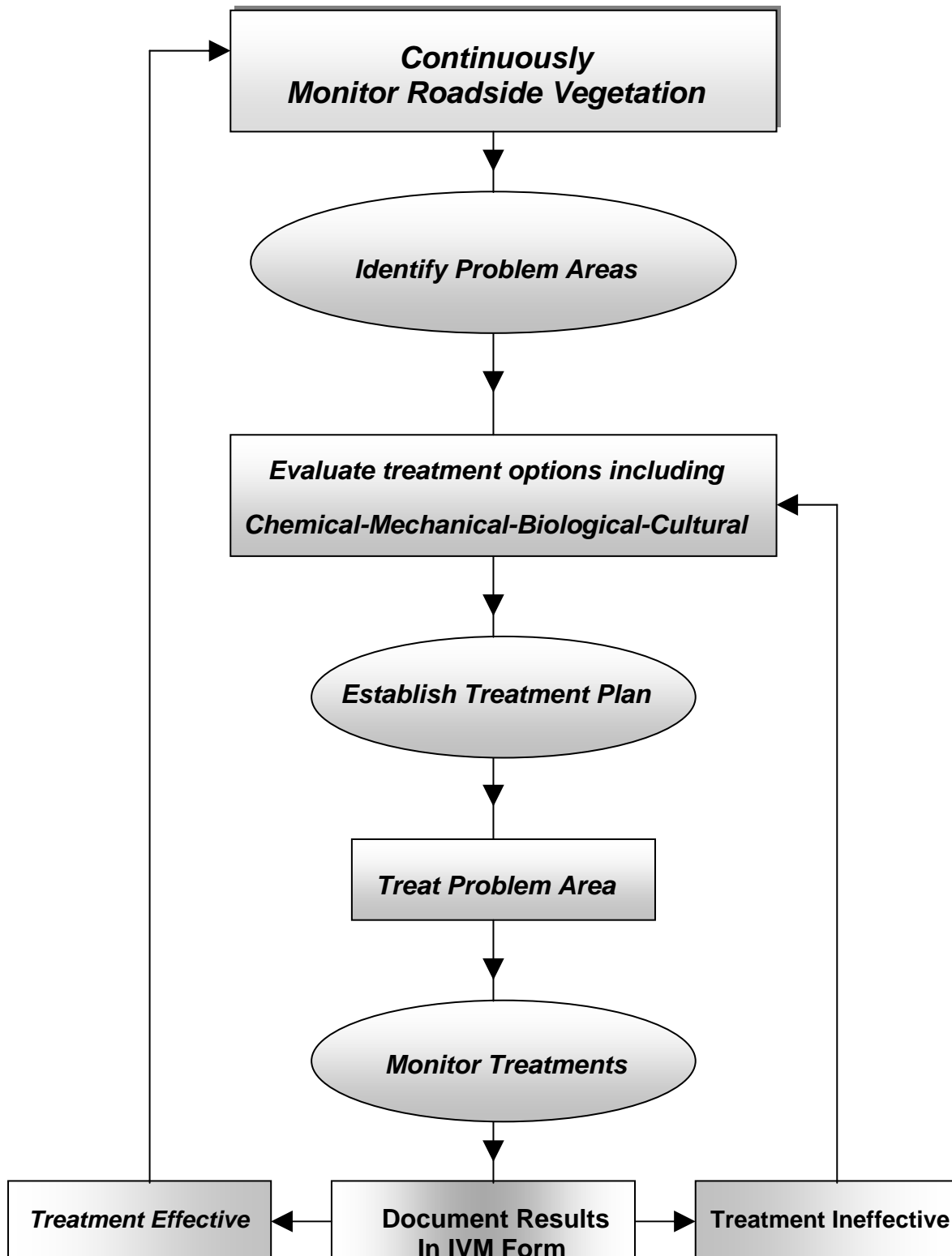
Action Thresholds

An action threshold is the point at which an individual plant or infestation begins to impact highway operations, WSDOT's legal obligations, or other maintenance program objectives. At this point the vegetation is considered a target for control, is subject to the development of treatment plans, and is prioritized for maintenance action.

The action threshold for some activities is exceeded on a routine or annual basis, such as the maintenance of a vegetation-free strip adjacent to the edge of pavement (Zone 1), or where regular mowing and/or trimming is required to preserve sight distance at curves, road approaches, or intersections. In other cases action thresholds are set at varying levels for individual plant species such as noxious or nuisance weeds, or for potentially large and dangerous trees growing too close to the highway. Action thresholds are described for individual plant species and/or types of vegetation as part the Integrated Vegetation Management Prescriptions table shown in Appendix A.

The Integrated Vegetation Management Decision-Making Process

Within maintenance, the IVM decision-making process is applied in any situation where weed control is desired. This decision-making process relates to the process of evaluating the problem and establishing a plan that incorporates the most appropriate control method for the specific site. Additional information and guidance on the application of IVM can be found in the publication **Integrated Vegetation Management for Roadsides** (WSDOT, July 1997). **Figure 3** below diagrams the IVM decision-making process used by maintenance in the field.



The IVM Decision-Making Process
Figure 3

North Central Region, Area 2 Roadside Vegetation Management Plan

1. ROUTINE MAINTENANCE ACTIVITIES

Roadside maintenance activities are considered routine when regular annual treatment is required because vegetative growth annually or regularly exceeds action thresholds. Typical routine maintenance activities include maintenance of Zone 1 and certain types of mowing and trimming.

1.1. Routine Shoulder Maintenance (Zone 1)

1.1.1. Policy and objectives

Historically the edge of pavement, or zone 1, has been maintained to be free of vegetation. This vegetation free zone has typically varied from 10' to over 15' in width. The objectives of this policy was to promote positive surface and subsurface drainage, protect asphalt shoulders from deterioration due to vegetation growth, facilitate preservation and maintenance of roadside hardware (guardrails and delineators), manage sight distance, control noxious weeds and to function as a firebreak. WSDOT is now in the process of reevaluating this policy and objectives on a statewide basis. This evaluation includes installing tests plots, conducting a study to evaluate alternative methods and a focus on defining site-specific goals and objectives.

The goals of the interim zone 1 policy for NC Region, Area 2 are as follows:

- 1) Identify opportunities to reduce zone 1 width where practical
- 2) Develop desirable stable vegetation and reduce routine maintenance and lifecycle costs
- 3) Continue to control noxious and select nuisance weeds
- 4) Meet site-specific operational needs, i.e. drainage, site distance etc.
- 5) Implement appropriate alternatives as they become available

The width of zone 1 has been reduced in recent years from an average of approximately 10-12' to what is now the standard width of 4' as measured from the edge of pavement along the slope of the shoulder.

No residual herbicides will be applied in herbicide sensitive area buffers. In these buffer zones, zone 1 will be maintained with glyphosate only. Any nuisance or noxious weed species that emerge in these areas will be controlled by mechanical control or with an approved selective herbicide application. Where guardrail is present in these areas, vegetation will be controlled around the base of hardware with hand mowing or routine annual applications of glyphosate. These areas are identified in the field with yellow pavement markings.

Zone 1 may be greater or less than the 4-foot standard width under some circumstances for certain operational functions. Prior to application, the area maintenance superintendent must approve all exceptions to standard width applications. These locations will be included on future updates to the area maps and plan documents.

Exception Areas (No Zone 1)

Areas where Zone 1 will not be maintained in NC Region, Area 2:

- Shoulders without guard rail in close proximity (60') of sensitive aquatic habitat (maintained w/glyphosate only)
- When required for legal environmental compliance
- By agreement/permit where maintenance is done by others
- Within designated zone 1 "test plot" areas.

Variance Areas (Wider than Standard Width)

Areas where Zone 1 may be greater than the standard 4' feet include:

- Where required for maintenance or visibility of highway hardware such as guardrail or fencing.
- Special areas designated as high fire risk.
- Where maintaining desirable vegetation is impractical such as natural rock or gravel ditches.
- Turn-outs or viewing areas
- To facilitate sight distance and visibility at intersections or gore points where mowing is not practical.
- In locations where a large vegetation free zone is required in order to be consistent with adjacent management techniques. As an interim measure to control noxious and nuisance weeds in an area that is not feasible to restore or reduce due to extreme weed pressure and lack of funding.
 - I-90 East and West Shoulders and median MP. 143 to 154 10-14' wide
 - I-90 Median MP. 161 to 165 (10-14')
 - I-90 Shoulders East and West MP. 179 to 182 (10-14')
 - I-90 Median MP. 179 to 192 (10-14')

1.1.2. Action Thresholds (Zone 1):

An action threshold refers to the point at which action must be taken to control an infestation of weeds. The action thresholds for treatment of zone 1 are listed below.

- Presence of listed noxious or nuisance weeds
- Sight distance limited by vegetation within zone 1
- Damage to the pavement edge as a result of vegetation

1.1.3. Methods (timing and procedures)

Zone 1 will be maintained by an annual application of non-selective residual herbicide applied according to label instructions and in compliance with all state and federal regulations.

Applications will be made in the spring typically beginning in March. They will be planned and carried out depending on weather patterns and precipitation events. In some cases a focused fall application may take place depending on weather patterns and weed conditions.

Zone 1 Herbicide Sensitive Areas will be maintained with glyphosate or other approved chemical that has been approved for use within this 60-foot buffer. Special care will be given to these sensitive areas to insure that there are no impacts to the aquatic environment. Zone 1 chemical applications will be documented on the WSDOT Pesticide Application Record.

1.1.4. Prescriptions

See **Appendix A, Zone 1 Maintenance Prescriptions**

2. INTEGRATED VEGETATION MANAGEMENT ACTIVITIES

For all vegetation management needs not addressed through routine maintenance as described above, activities are planned and carried out using the principles of Integrated Vegetation Management (IVM) and the decision making process described in Figure 3 (page 14). This is consistent with requirements in state law pertaining to the use of Integrated Pest Management (IPM), as defined in Chapter 17.15 RCW. IVM is a coordinated decision making process that uses the most appropriate vegetation management methods and strategy, along with a monitoring and evaluation system, to achieve long term roadside maintenance goals and objectives in an environmentally and economically sound manner. The result of utilizing the IVM approach is the establishment of stable, low maintenance native or naturalized plant communities on the roadside that are compatible with highway maintenance and safety objectives, preservation of environmental quality, weed control requirements, and the concern's of WSDOT's customers and neighbors. Long term, the use of the IVM approach can reduce the intensity and cost of maintenance as well as minimizing the need to use herbicides.

2.1. Integrated Vegetation Management Planning and Tracking Database

2.1.1. Description

One of the keys to successful use of IVM is carrying out activities in accordance with a long-range plan and to follow up with monitoring and evaluation of treatment results. To facilitate this, IVM forms and a database have been created for statewide use by WSDOT maintenance. This system is being tested as part of the initial development of Roadside Vegetation Management Plans and will be modified and refined as technology in this area continues to develop over the coming years.

2.1.2. Sample forms

A copy of the Integrated Vegetation Management Form and Application Record are included in **Appendix D, Forms and Records**.

2.1.3. Instructions for use

Maintenance supervisors and technicians can access the IVM Record through the existing pesticide application record keeping system available from the area office. The IVM form should be used whenever evaluation of a method or product is desired. Entries should include future evaluation dates as well as a description of the site and current conditions.

2.2. Mowing Operations (Zone 2)

2.2.1. Policy and objectives

Zone 2 is also referred to as the operational zone and is maintained to fulfill operational, safety, and environmental functions of the highway roadside. Vegetation management considerations include noxious and nuisance weed control. Maintenance techniques used to accomplish these objectives must consider impacts to sensitive areas, erosion control, water quality, long-term vegetative growth and overall visual quality.

Zone 2 is measured from the edge of Zone 1 (or pavement if Zone 1 is not present) to the designated errant vehicle recovery zone for a given segment of highway, or to the width required to provide sight distance at curves and intersections, or visibility of highway signs. Maintained recovery zone widths are based on a variety of factors including design speed, slopes, and the presence of guardrail. The typical recovery zone width for highways in NC Region, Area 2 is

approximately 30 feet from the outside pavement stripe, or the width of the right of way if less than 30 feet. The recovery zone must be free of vegetation with trunk diameter greater than 6". Where guardrail exists there is no requirement to maintain the vehicle recovery zone.

The goal of vegetation management in Zone 2 is to encourage the growth of stable native plant communities through routine maintenance activities while meeting operational and safety needs. Mowing and the removal of competitive nuisance and noxious weeds will be accomplished in a way that contributes to this goal, as described in Section 2 below. Vegetation management techniques will be used to maintain the predominately natural, but low growing appearance of the roadside.

2.2.2. Methods (timing and procedures)

Mowing will be accomplished throughout the NC Region, Area 2 on an as needed basis. Timing, frequency and mower height are critical issues when planning mowing operations. Mowing needs and prescriptions will vary by location. Mowing can be an effective form of weed control, but done incorrectly can cause damage to desirable vegetation and enhance the growing environment for unwanted weeds. It's important when conducting a mowing operation to consider timing, mowing height and to take the time identify goals of the operation. In some rare instances a lower mowing height may be required, if necessary, it must be approved by the Area Superintendent prior to conducting the operation.

Mowing in Zone 2 will take place as needed when prescribed to meet specific goals. Mowing will take place after desirable native grasses have reached dormancy stage or set seeds, typically this occurs in late July or Aug. Perennial native grasses in this environment do not respond well to repeated mowing during the active growing period. Early mowing will often result in a depletion of the grasses resources and vigor, as the stand weakens it becomes more susceptible to diseases and less capable of competing with weeds. The long-term result will be a reduction of desirable grasses and an increase in noxious and nuisance weeds.

Mowing equipment will be set to a minimum height of 8 to 10 inches above ground. This minimum mowing height helps to reduce exposing bare soil caused close mowing on uneven ground. Bare soil contributes to erosion and provides an opportunity for weed infestations to begin along the right-of-way. Maintaining the grass stand at the maximum allowable height should always be the objective. This will not only improve grass stand health but will also improve competition with weeds by shading weed seedlings.

Prior to conducting a mowing operation there are a number of considerations that must be addressed. Review items 1-7 below, then review and follow the appropriate prescriptions in Appendix A. There will be no mowing of desirable vegetation including grass, forbs, shrubs or woody species without prior authorization of the Maintenance Area superintendent.

- 1. Identify Goals Of Mowing Operation:** Before prescribing mowing as a preferred alternative it is important to clearly understand what the goals of the operation are. These goals should not only be understood by the manager or decision maker, but also must be clearly communicated and understood by the operator as well. Goals may include; control of seed production, maintenance of sight distance, control of vegetation around

hardware features, control of noxious or nuisance weeds in an environmental or crop sensitive area or the removal of weed skeletons for the control of newly emerging weeds.

2. **Identify Appropriate Timing:** When mowing in a stand of established dry land perennial grass, particularly native varieties, it is important to consider timing. Mowing shall not occur until after desirable grasses have reached dormancy or set seed, typically in July-August. If the goal is control of weed seed production in an area where no desirable vegetation is present, mowing should take place as late as possible but prior to seed development. This will increase the likelihood that the target plant will not produce seed.
3. **Identify Target:** Identify target plant or plants to be controlled and ensure that the mowing operation will not spread these weed or exacerbate the existing problem. Some weeds, such as Japanese knotweed, can be easily spread through mowing. Ensure that the operator understands the target species and any desirable species in the area.
4. **Deck Height:** The mower deck height must be maintained at least 6-8 inches from the ground to reduce the likelihood of exposing bare soil. It is also important to maintain this deck height if the mowing operation will include desirable grasses. Close mowing may be allowed in special cases where no desirable species occurs and restoration work will immediately follow.
5. **Clean Mower:** Mowing can easily spread weed seed from infested areas to uninfested areas. It is important to clean the mower after each operation to ensure that mowing operation is not contributing to the spread of noxious and nuisance weeds.
6. **Consider Alternatives:** As with all IVM operations it is important to consider alternative methods. Mowing in NC Region, Area 2 is not a routine maintenance activity. It is a secondary form of weed control to be used on an as needed basis.
7. **Communicate:** Communication with the mower operator is critical to a successful mowing operation. The operator must understand the goals, timing, target species and desirable species before the mowing operation begins.

2.2.3. Prescriptions

See **Appendix A, IVM Mowing Prescriptions**

2.3. Noxious Weed Control

2.3.1. Policy and objectives

As defined in RCW 17.10.140, all property owners, including state agencies, are required to control noxious weeds on lands that they own and manage. Noxious weed control is a high priority for WSDOT as a result of this legal mandate as well as the fact that if they are left unchecked, levels of infestation can begin to spread at exponential rates from year to year. Noxious weeds are invasive, non-native plant species that can quickly dominate native plant communities and spread to other areas or regions. New infestations of noxious weeds often appear first in highway corridors

after being transported from other areas by vehicles or transportation of agricultural products. Without timely control, these new infestations can further spread along transportation corridors and to adjacent property. The overall cost and impact to the economic viability of the agricultural community and the health of native ecosystems can be significant. Also, some of these plants are toxic to livestock and/or humans.

WSDOT prioritizes weed control based on three legally defined weed species classification categories. Chapter 16-750 of the Washington Administrative Code lists weed species in classes A through C. Noxious weeds include all plants listed as class A, and those in classes B and C that are designated for control within each individual county.

Class A

Class A noxious weeds are non-native species with a limited distribution in the state. Immediate treatment of these new infestations is required by State law and is the top weed control priority to prevent spread into adjacent areas. North Central Region, Area 2 is located primarily within Noxious Weed Region 3 (http://www.nwcb.wa.gov/weed_list/designations.html).

Currently there is no known Class A weeds identified within the WSDOT operating right of way in NCR Area 2

Class B

Class B weeds are more widespread than Class A, with control mandated by law only if infestations are generally limited and the species are designated within the individual counties by the County Noxious Weed Control Boards. Containment, gradual reduction, and prevention of further spread are the chief management concerns of Class B species. For the purposes of roadside management in NC Region, Area 2, WSDOT will provide consistent annual IVM treatments for all known species of Class B noxious weeds designated for control by the County Noxious Weed Control Board. Treatment will continue until these species have been eradicated from WSDOT rights of way wherever possible. Priority for treatment of these infestations will be areas where control is also being accomplished on neighboring properties. Class B noxious weeds not designated for control in subject counties will receive a lower priority for control. Nuisance weeds and treatment options are described in Section 2.3 of this document.

Class B noxious weeds designated for control within Grant, Adams and Franklin Counties and currently present within WSDOT right-of-way in NC Region, Area 2 include:

Grant County:

- Myrtle Spurge (*Euphorbia myrsinites*)
- Meadow Knapweed (*Centaurea jacea x nigra*)
- Diffuse Knapweed (*centaurea diffusa*)
- Spotted Knapweed (*Centaurea biebersteinii*)
- Purple Loosestrife (*Lythrum salicaria*)
- Yellow Nutsedge (*Cyperus esculentus*)
- Perennial Pepperweed (*Lepidium latifolium*)
- Rush Skeletonweed (*Chondrilla juncea*)
- Perennial Sowthistle (*Sonchus arvensis* ssp. *Arvensis*)
- Yellow Starthistle (*Centaurea solstitialis*)

- Musk Thistle (*Carduus nutans*)
- Scotch Thistle (*Onopordum acanthium*)
- Dalmatian Toadflax (*Linaria dalmatica* spp *dalmatica*)
- Canada Thistle (*Cirsium arvense*)
- White Top/Hoary Cress (*Cardaria draba*)
- Puncturevine (*Tribulus terrestris*)
- Kochia (*Kochia scoparia*)

Adams County

- Myrtle Spurge (*Euphorbia myrsinites*)
- Meadow Knapweed (*Centaurea jacea* x *nigra*)
- Diffuse Knapweed (*centaurea diffusa*)
- Spotted Knapweed (*Centaurea biebersteinii*)
- Purple Loosestrife (*Lythrum salicaria*)
- Yellow Nutsedge (*Cyperus esculentus*)?
- Perennial Pepperweed (*Lepidium latifolium*)
- Rush Skeletonweed (*Chondrilla juncea*)
- Perennial Sowthistle (*Sonchus arvensis* ssp. *Arvensis*)
- Yellow Starthistle (*Centaurea solstitialis*)
- Musk Thistle (*Carduus nutans*)
- Scotch Thistle (*Onopordum acanthium*)
- Dalmatian Toadflax (*Linaria dalmatica* spp *dalmatica*)
- Canada Thistle (*Cirsium arvense*)
- White Top/Hoary Cress (*Brassicaceae*)
- Puncturevine (*Tribulus terrestris*)
- Kochia (*Kochia scoparia*)

Franklin County

- Myrtle Spurge (*Euphorbia myrsinites*)
- Meadow Knapweed (*Centaurea jacea* x *nigra*)
- Diffuse Knapweed (*centaurea diffusa*)
- Spotted Knapweed (*Centaurea biebersteinii*)
- Purple Loosestrife (*Lythrum salicaria*)
- Yellow Nutsedge (*Cyperus esculentus*)
- Perennial Pepperweed (*Lepidium latifolium*)
- Rush Skeletonweed (*Chondrilla juncea*)
- Perennial Sowthistle (*Sonchus arvensis* ssp. *Arvensis*)
- Yellow Starthistle (*Centaurea solstitialis*)?
- Musk Thistle (*Carduus nutans*)?
- Scotch Thistle (*Onopordum acanthium*)
- Dalmatian Toadflax (*Linaria dalmatica* spp *dalmatica*)
- Canada Thistle (*Cirsium arvense*)
- White Top/Hoary Cress (*Brassicaceae*)
- Puncturevine (*Tribulus terrestris*)
- Kochia (*Kochia scoparia*)

Class C

Class C noxious weeds are widely established throughout Washington or may impact the agricultural industry. Counties may require control of certain Class C weeds at their own discretion. Unless otherwise required, WSDOT classifies most Class C species as “nuisance” weeds and provides control as part of the general roadside vegetation management program. Nuisance weeds and treatment options are described in Section 2.4 of this document.

Class C noxious weeds designated for control within Grant, Adams and Franklin counties, and are currently present within WSDOT right-of-way in NC Region, Area 2 include:

Grant County:

- Canada Thistle (*Cirsium arvense*)
- St. Johnswort (*Hypericum perforatum*)
- Babies Breath (*Gypsophila paniculata*)
- Poison Hemlock (*Conium maculatum*)
- Bull Thistle (*Cirsium arvense*)
- Hoary Cress (*Cardaria draba*)

Adams County

- Canada Thistle (*Cirsium arvense*)
- St. Johnswort (*Hypericum perforatum*)
- Babies Breath (*Gypsophila paniculata*)
- Poison Hemlock (*Conium maculatum*)
- Bull Thistle (*Cirsium arvense*)
- Hoary Cress (*Cardaria draba*)

Franklin County

- Canada Thistle (*Cirsium arvense*)
- St. Johnswort (*Hypericum perforatum*)
- Babies Breath (*Gypsophila paniculata*)
- Poison Hemlock (*Conium maculatum*)
- Bull Thistle (*Cirsium arvense*)
- Hoary Cress (*Cardaria draba*)

2.3.2. Methods

Control of noxious weed species can be very difficult; therefore it is important to incorporate the concepts of IVM. In many cases herbicides are used as a means of early control. Other methods such as hand pulling, revegetation, use of biological control and various types of mechanical control must be considered for long-term management of the site. In many cases extensive seed banks are present in the soil, requiring reapplication. Timing of herbicide treatments within the growth stage of the weed species is critical to achieving complete control of perennial species. With annual species, the most important measure is prevention of seed production.

In conjunction with weed control treatments, a variety of other measures may be taken to promote natural vegetative competition through seeding, planting, and soil enhancement. Use of the IVM Record and database are essential to the execution and success of long-term control measures.

2.3.3. Action Thresholds:

The action threshold for noxious weed control is met whenever a noxious weed is present on WSDOT right of way. WSDOT is required by state law to control

and prevent the spread of all noxious weeds on WSDOT right-of-way (RCW 17.10.040). Control efforts will be initiated prior to the noxious weed producing seed.

2.3.4. Prescriptions

See **Appendix A, IVM Prescriptions, Noxious Weed Control**

2.3.5. Species Location by Milepost

See **Appendix B, Noxious Weed Locations, Table 2.2.**

2.4. Nuisance Weed Control

2.4.1. Policy and objectives

Nuisance weed control, while not required by state law, provides many positive benefits to the overall condition of the roadside, enhances ecological function by maintaining and enhancing native plant communities, reduces the potential for continuing spread of weed infestations, and enhances visual quality.

Depending on crew availability and budget, nuisance weeds will be controlled throughout the roadsides of NC Region, Area 2 as part of the overall Integrated Vegetation Management process. Priority control measures will be given to new infestations or those infestations that threaten desirable roadside vegetation. In some cases, where practical, nuisance weed infestations may be treated in conjunction with of noxious weed.

For established infestations currently identified in this plan, weed populations will be contained and gradually reduced by applying appropriate vegetation management prescriptions as funds and resources are available. Control options range from manual cutting, mechanical removal, and biological control, to targeted selective herbicide application, or combinations thereof.

2.4.2. List of species currently present

Numerous Class C nuisance weeds occur throughout NC Region, Area 2 within WSDOT right of way that are not targeted for control. In some cases they are controlled incidentally or for site-specific reasons. Nuisance weed control, while not required by state law, provides many positive benefits to the overall condition of the roadside. When time and funding are available, priority will be given to new infestations or those infestations that threaten desirable roadside vegetation. Common nuisance weed species that occur on WSDOT right of way within NC Region, Area 2 include:

- Mustard Species
- Common Mullen (*Verbascum thapus*)
- Poison Hemlock (*Conium maculatum*)
- Russian Thistle (*Salsola iberica sennen*)
- Cereal Rye (*Secale cereale*)
- Common Reed (*Phragmites australis*)
- Pepperweed (*Lepidium species*)
- Babies Breath (*Gypsophila paniculata*)
- Mares Tail (*Conyza canadensis*)
- China Lettuce (*Lactuca serriola*)

Nuisance weeds targeted for control in this area include Russian Thistle (*Salsola iberica sennen*), Knapweeds (*Centaurea*), Common Mullen

(*Verbascum thapus*), cereal rye (*Secale cereale*), and China Lettuce (*Lactuca serriola*). Other species may be targeted as needed.

There are many other species of weeds present in the area that are too common and widespread to justify treatment or attempt control. There are also new species that have only shown up in recent years and are not yet listed as nuisance or noxious weeds. Other species may be added to this list as they are identified or become priorities for control.

2.4.3. Methods

Control measures for nuisance weed are dependent on the type of plant. Species that are wide spread are treated routinely throughout the season where time and budget allows. Many of these species are treated with a combination of mowing, herbicide treatments, biological control and establishment and/or encouragement of native vegetation.

2.4.4. Action Threshold For Nuisance Weed Control

Action will be taken at the discretion of the area superintendent. WSDOT is not required to control nuisance weeds, however, action is advised where funding is available and one or more of the following instances occur as a result of a nuisance weed infestation.

- Impact to adjacent land owners
- Impact to desirable vegetation
- Nuisance weed presence reduces effectiveness of noxious weed control due to height or density

2.4.5. Prescriptions

See **Appendix A, IVM Prescriptions, Nuisance Weed Control**

2.4.6. Species Location by Milepost

See **Appendix B, Nuisance Weed Locations, Table 2.4.**

3. SPECIAL CONSIDERATIONS

Special Maintenance Areas include any sections of roadside where there are unique maintenance requirements or existing arrangements with any external organizations. Special Maintenance Areas may include interchanges, community entrances or enhancement areas, areas maintained by cities, bicycle paths, storm water retention ponds, state parks, wellheads, environmentally sensitive areas, school zones, roadsides adjacent to individual properties with current or annual no-spray agreements and new technologies.

3.1. Herbicide Sensitive Areas

3.1.1. Policy and objectives

There are a number of herbicide sensitive areas located within the region where herbicide use will be limited to reduce potential risk to the environment. Herbicide applications made for noxious or nuisance weed control, maintenance of vegetation at the pavement edge, or applications made in combination with mechanical methods for control of undesirable trees will be made in accordance with the court order "Washington Toxics Coalition vs. EPA"

<http://agr.wa.gov/PestFert/EnvResources/Buffers.htm#maps>

The Washington State Department of Agriculture maintains a list of individuals who have been diagnosed with Multiple Chemical Sensitivity (MCS). WSDOT is required by law to notify these individuals when making herbicide applications to roadside locations if the highway right of way is adjacent to their property and their principle residence is within one-half mile of the application. Concerned individuals can obtain further information by contacting the area maintenance office in Moses Lake at **509.765.6145**.

3.1.2. Methods and Prescriptions

Activity descriptions and IVM prescriptions are included in sections above and in relevant appendices, as they relate to the various types of maintenance.

3.2. Restoration Projects and Test Plots

3.2.1. Policy and objectives

Test plots are established as part of an on-going effort to refine the Integrated Vegetation Management process. Test plots will be used to evaluate revegetation techniques, herbicide selection, species selection, evaluate soil amendments and other research activities as needed. Test plot goals, locations and duration are identified and recorded in **Appendix C**. Two revegetation test plots have been identified within NCR Area 2 for implementation in 2005/2006. The information collected from these plots will be used to deal with other similar issues throughout Area 2 and statewide.

3.2.2. Locations by Milepost, See Appendix C, Test and Restoration Plots

3.3. Adopt-a-Highway and Owner Will Maintain Agreements

3.3.1. Policy and objectives

The Adopt-a-Highway program allows private citizens, volunteer groups, and businesses an opportunity to contribute to an enhanced roadside appearance through direct partnership with WSDOT. The program improves the overall appearance of the roadside primarily through litter control, although other activities that improve the visual and environmental condition of the roadside are permitted as well including limited planting and maintenance of specific areas. Other partnership opportunities are possible through general permits and agreements. Volunteer groups that do enhancement planting on WSDOT roadsides are typically required to establish and maintain the plantings. Communities may partner with WSDOT to develop and maintain selected Community Enhancement Areas as described in the Roadside Classification Plan.

Neighboring property owners may enter into an agreement with WSDOT where they take responsibility for the vegetation management activities along the area where their property abuts state right-of-way. These "owner will maintain" agreements are established through a General Permit and are required to be renewed on an annual basis. These agreements are typically implemented in cases where a neighboring property owner desires a higher level of care in front of their business or residence, or prefers maintaining the area to avoid WSDOT herbicide applications near their home or business.

3.3.2. Locations by Milepost

Locations where partnership agreements exist for accomplishment of roadside maintenance are listed in **Appendix C, Special Maintenance Areas, Table 3.0.**

3.4. Environmentally Sensitive Areas

3.4.1. Policy and Objectives

As a state agency, WSDOT is committed to conducting its activities in accordance with the dictates of sound environmental protection practices. This includes pollution prevention, avoid, minimize and appropriately mitigate adverse environmental impacts, and to comply with all environmental laws and regulations applicable to our business and activities.

Numerous environmentally sensitive areas occur within NC, Region Area 2, such as lakes, streams and wetlands. Special care will be taken to avoid and minimize impacts to these resources. Herbicide applications in these areas will follow normal label requirements. Other IVM treatments that take place in these areas, such as mowing or revegetation efforts will be subject to the Regional Road Maintenance Endangered Species Act Program Guidelines.

In compliance with the Regional Road Maintenance Endangered Species Act Program Guidelines, as agreed upon with the National Marine Fisheries Service, WSDOT has identified, mapped and located in the field all highway sections within 300 feet of rivers, wetlands and water bodies.

3.4.2. Locations

Environmentally sensitive areas are identified in the field with green guideposts and identified in an area atlas. For more information on the Regional Road Maintenance ESA Program Guidelines refer to <http://www.wsdot.wa.gov/maintenance/roadside/esa.htm> or contact Sandy Stephens at 360.705.7853.

3.5. Storm Water Management Facilities

3.5.1. Policy and Objectives

Storm water management facilities include bio-filtration, swales, retention ponds and infiltration ponds.

Storm water management facilities will be managed for noxious and nuisance weeds following the same guidelines mentioned in previous sections. The primary objectives, with regard to vegetation management within these facilities, are to maintain retention and detention functions to improve water quality.

3.5.2. Activities and Methods

Noxious weed control will be conducted at all storm water management facilities as necessary. Control of nuisance weeds will be coordinated with nuisance weed control along the adjacent roadside. Trees and brush should be cleared along both sides of the perimeter fencing for a width of approximately 8 feet as needed. Inlets and outfalls should be kept clear of unwanted vegetation and debris as well.

Refer to vegetation management prescriptions for specific weed, tree and brush species in Sections 1 and 2 of this document for timing and control methods.

Currently there are no active storm water management facilities in NC Region, Area 2.

3.6. Wetland Mitigation Sites

3.6.1. Policy and Objectives

Wetland mitigation results from unavoidable impacts to naturally occurring wetlands from highway construction. In these cases new wetlands are created on WSDOT right of way and vegetation is managed to provide environmental functions similar to those eliminated in other areas by the highway's presence.

Wetland mitigation sites are carefully monitored for up to 10 years following their creation to ensure compliance with environmental regulation. In most cases vegetation in these sites is planted and established through the construction process so the maintenance actions are not required unless noxious weeds or hazardous trees become an issue. However, it is important that maintenance be aware of the locations of wetland mitigation sites to avoid impacting the required environmental functions of the sites.

Currently there are no known wetland mitigation sites within the operational right of way in NC Region, Area 2.

Appendix A

Routine Vegetation Management Prescriptions

Routine Maintenance Activities

Zone 1 Maintenance - Annual maintenance, (Option A)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective residual herbicide Karmex DF @ 10lbs per acre Spike 80 DF @ 3lbs per acre	Fall and/or Spring	none required

Zone 1 Maintenance - Annual maintenance (Option B)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective residual herbicide Portfolio @ 5.33 Ozl Karmex DF @ 5 lbs	Fall and/or Spring	none required

Zone 1 Maintenance - Annual maintenance (Option C)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective residual herbicide Karmex DF @ 8 lbs	Fall and/or Spring	none required

Zone 1 Maintenance - Annual maintenance on I-90 medians (Option A)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective residual herbicide Pendulum 3.3EC @ 76 ozl/acre	Fall and/or Spring	none required

Zone 1 Maintenance - Annual maintenance on I-90 medians (Option B)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective residual herbicide karmex DF @ 4 lbs Pendulum WDG @ 96 ozd	Fall and/or Spring	none required

Zone 1 Maintenance - Sensitive Areas (Option A)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective Roundup-Pro @ 32 ozd Chemtrol @ 24 ozl	Fall and/or Spring	none required

Zone 1 Maintenance - Sensitive Areas (Option B, Spring)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective Payload @ 8 oz Oust or Landmark @ 3-4 Oz	Spring	none required

Appendix A

Routine Vegetation Management Prescriptions

Routine Maintenance Activities

Zone 1 Maintenance - Sensitive Areas (Option C, Fall)

Location Type	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
gravel shoulder or guardrail sections	4' vegetation free zone	annual herbicide application	spray truck w/ fixed nozzle mounted 18" from ground	non-selective Payload @ 10 oz Oust or Landmark @ 3-5 Oz	Fall	none required

Noxious Weed Control

Noxious Weed Control - Noxious Broadleaf Weeds (Option A)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
Zones 2-3	as soon as plants appear	Selective eradication and control of listed noxious weeds.	spot treatment w/ herbicide most effective	tank sprayer equipped with Invert system, Injection system tank mix or back pack sprayer	Buctril @ 32 ozl Vista @ 16 ozl MSO @ 32 ozl chemtrol @ 24 ozl	Early growing season	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Noxious Weed Control - Noxious Broadleaf Weeds (Option B)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
Zones 2-3	as soon as plants appear	Selective eradication and control of listed noxious weeds.	spot treatment w/ herbicide most effective	tank sprayer equipped with Invert system, Injection system tank mix or back pack sprayer	Amine 4 @ 64 ozl Vanquish @ 24 ozl Actamaster DF @ 6.8 lbs	Early growing season	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Noxious Weed Control - Noxious Weeds In Sensitive Areas

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
Zones 2-3	as soon as plants appear	Selective eradication and control of listed noxious weeds.	spot treatment w/ herbicide most effective	tank sprayer equipped with Invert system, Injection system tank mix or back pack sprayer	Roundup-Pro @ 32 ozd Actamaster DF @ 6.8 lbs	Early growing season	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Noxious Weed Control - Dalmation Toadflax, Knapweed Species

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
Zones 2-3	as soon as plants appear	Selective eradication and control of listed noxious weeds.	spot treatment w/ herbicide most effective	tank mix or back pack sprayer	Tordon 22K @ 32 ozl LI-700 @ 5.3 ozl	Early growing season	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Noxious Weed Control - Dalmation toadflax (Biological)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	Biological Place 2 biocontrol agents (bugs) per plant	hand placement	Mecinus janthinus	Early growing season	Monitor population and reapply as needed document in IVM form

Noxious Weed Control - Purple loosestrife (Biological)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	Biological Place 2 biocontrol agents (bugs) per plant	hand placement	Galerucella californiensis	Early growing season	Monitor population and reapply as needed document in IVM form

Noxious Weed Control

Noxious Weed Control - *Knapweeds (Biological)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones	as soon as plants appear	eradication and control of listed noxious weeds.	Biological Place 2 biocontrol agents (bugs) per plant	hand placement	<i>Larinus minutus</i> <i>Larinus obtusus</i>	Early growing season	Monitor population and reapply as needed document in IVM form

Noxious Weed Control - *Kochia, Knapweeds, Dalmation Toadflax, Thistle (Mechanical)*

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
Zones 2-3	Weed height exceeds 8"	Reduce or eliminate seed production of weeds	Mow vegetation at 8" to eliminate or reduce production of seeds	Mower	None	Prior to weed seed development	Re-mow as needed or follow up with herbicide, many plants will still produce seeds without follow-up treatment.

Tree and Brush Control

Tree and Brush Control - Alder, Maple, Cottonwood (trees under 6' ht.)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 2	as soon as seedlings become visible w/in 30' of fog line (no guardrail present)	control of seedling trees that may impact roadside function if allowed to grow.	selective foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Garlon 3A w/ Redi-vert at label rate. Krenite S on alder at recommended label rates	late fall to avoid brown out	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Let's be more specific, what is rate that you would use?

Tree and Brush Control - Alder, Maple, Cottonwood (trees over 6' ht.)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 2	whenever trees are likely or have potential to grow and fall on the highway	control of young trees that may impact roadside function if allowed to grow.	hand cutting, treatment of cut surface w/ herbicide chip debris in zone 2	power saws, loppers, chipper, backpack or hand-held sprayer	Garlon 4 at label rate for cut-stump treatment what rate?	anytime	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Tree and Brush Control - Conifers (trees under 2' ht.)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 1 or 2	as soon as seedlings become visible w/in 30' of fog line (no guardrail present)	control of seedling trees that may impact roadside function if allowed to grow.	foliar treatment w/ herbicide	tank sprayer where possible, backpack sprayer where necessary	Garlon 4, Escort, or Krenite S at labeled rates apply w/ Redi-vert when possible what rate?	mid summer when new growth is present	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Tree and Brush Control - Conifers (trees under 2' ht.)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 1 or 2	as soon as seedlings become visible w/in 30' of fog line (no guardrail present)	control of seedling trees that may impact roadside function if allowed to grow.	hand pulling transplant if possible	Weed Wrench optional	Mechanical	anytime	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Tree and Brush Control - Conifers (trees over 2' ht.)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
zone 2 or 3	whenever tree has been identified as defective or likely to fall on the highway	control of trees that may impact roadside function if allowed to grow.	hand cutting chip debris in zone 2 if necessary	power saws, chipper,	Mechanical	anytime	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Nuisance Weed Control

Nuisance Weed Control - Mustard Species, Mullen, Teasel, China Lettuce and other Nuisance species (A

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	When infestation impacts private, public resources (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Veteran 720 @ 64 Ozl Escort @ .5 Ozd	prior to seed	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Nuisance Weed Control

Nuisance Weed Control - Mustard Species, Mullen, Teasel, China Lettuce and other Nuisance species (B)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	When infestation impacts private, public resources (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Veteran 720 @ 64 Ozl	prior to seed	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Nuisance Weed Control - Mustard Species, Mullen, Teasel, China Lettuce and other Nuisance species (C)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	When infestation impacts private, public resources (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Curtail @64 Ozl Escort @ .5 Ozd	prior to seed	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Nuisance Weed Control - Mustard Species, Mullen, Teasel, China Lettuce and other Nuisance species (D)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	When infestation impacts private, public resources (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Gordon 22K @ 16 ozl Escort XP @ .5 ozd	prior to seed	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Nuisance Weed Control - Mustard Species, Mullen, Teasel, China Lettuce and other Nuisance species (E)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	When infestation impacts private, public resources (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Transline @ 16 ozd Escort XD @ 1 ozd	prior to seed	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Nuisance Weed Control - Mustard Species, Mullen, Teasel, China Lettuce and other Nuisance species (F)

Location Type	Action Threshold	Management Goal	Method	Equipment	Materials	Timing	IVM Follow-up
all zones new or limited infestations	When infestation impacts private, public resources (dependent on available resources)	minimize populations and prevent further spread of nuisance weeds	foliar treatment w/ herbicide	truck mounted sprayer where possible, backpack sprayer where necessary	Roundup-Pro @ 64 ozd	prior to seed	Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B

Mowing Prescriptions

Note: Mowing should be accomplished to meet specific goals and objectives specified in the "Management Goal" section below.

Zone 2 Maintenance - Weed seed Control

Location Type	Management Goals	Method	Equipment	Timing	Planning and Follow-up
As needed in Zone 2 or 3	1) Limit noxious weed seed production 2) Improve roadside vegetation 3) Control of annual weeds 5) Improve conditions for desirable species	Mow single pass at 10-12 inches	mower, attenuator	Mowing should take place late in the growth cycle of the target plant species but prior to seed development. This will limit regrowth and potential seed production.	1) Communicate goals with operator prior to undertaking operation 2) Inspect after operation is complete to ensure target species are controlled and seeds have not developed

Zone 2 Maintenance - Crop/Sensitive Area

Location Type	Management Goals	Method	Equipment	Timing	IVM Follow-up
As needed in Zone 2 or 3	1) Limit noxious weed seed production 2) Improve roadside vegetation 3) Control of annual weeds 4) eliminate potential risk of herbicide application. 5) Improve conditions for desirable species	Mow single pass at 10-12 inches	mower, attenuator	Mowing should take place late in the growth cycle of the target plant species but prior to seed development. This will limit regrowth and potential seed production.	1) Communicate goals with operator prior to undertaking operation 2) Inspect after operation is complete to ensure target species are controlled and seeds have not developed

Zone 2 Maintenance-Safety/Sight Distance

Location Type	Management Goals	Method	Equipment	Timing	IVM Follow-up
As needed in zone 1, 2 or 3	1) Improve sight distance for safety 2) Incidental control of annual noxious weeds 3) Incidental control of seed production 5) Improve conditions for desirable species	Mow single pass at 10-12 inches	mower, attenuator	Mowing should take place as late in the growing season as possible while still maintaining good sight distance	1) Communicate goals with operator prior to undertaking operation 2) Monitor area for regrowth and adequate sight distance 3) re-mow as necessary to provide safe sight distance

Zone 2 Maintenance- Remove Overstory (old weed debris)

Location Type	Management Goals	Method	Equipment	Timing	IVM Follow-up
As needed in Zone 2 or 3	1) Remove old vegetation debris in order to control emerging weeds 2) Remove old vegetation debris that may be restricting desirable grasses 3) Improve conditions for desirable species	Mow single pass at 10-12 inches	mower, attenuator	Mowing should take place late fall/winter after grass is dormant	1) Communicate goals with operator prior to undertaking operation

Zone 2 Maintenance- New Seeding

Location Type	Management Goals	Method	Equipment	Timing	IVM Follow-up
As needed in Zone 1, 2 or 3	(1) Reduce weed pressure (2) Improve roadside vegetation (3) Eliminate weed seed source	Mow single pass maintaining deck height above desirable grass	mower, attenuator	Prior to seed set of weed species or when needed to reduce competition with desirable species	1) Communicate goals with operator prior to undertaking operation 2) Inspect after operation is complete to ensure target species are controlled

Planting Area A

Note: Seed mixes are listed as Pounds Live Seed not bulk rate.

Planting Prescriptions

Seed Mix 1

(George/Moses Lake Vicinity)

Seed Mix Description: This is a general roadside seed mix for the George Vicinity. Additional species may be appropriate for this area depending on planting location in relation to the roadway, soil type, and management goals.

Grass Species	Pounds Pure Live Seed (PLS) Per Acre
Bluebunch Wheatgrass "Wahluke" (<i>Pseudoroegneria spicata</i>)	10.63
Sandberg Bluegrass "Hanford" (<i>Poa sandbergii</i>)	0.41
Thickspike Wheatgrass "Schwindemar" (<i>Agropyron trachycaulum</i>)	4.64
Sand dropseed (<i>Sporobolus cryptandrus</i>)	0.03
Total Lbs PLS/Acre	15.71
Bulk Rate Per Acre (Drill Seed)	20.00
Total Lbs PLS/Acre	23.50
Bulk Rate Per Acre (Hydroseed)	30.00

Planting Prescriptions

George Vic. Optional Species

Grass Species

Basin Wildrye

(Elymus cinereus)

Needle and Thread Grass

(Achillea millefolium)

Indian Ricegrass "Nezpar"

(Oryzopsis hymenoides)

Optional Shrubs and Forb Species

Rubber Rabbitbrush

(Chrysothamnus nauseosus)

Basin Big Sage

(Artemesia tridentata)

Snowy Buckwheat

(Eriogonum niveum)

Yarrow

(Achillea millefolium)

Arrow-leaf Balsamroot

(Balsamorhiza sagittata)

Herbicides Approved for Use on WSDOT Rights of Way

When making herbicide applications:

- 1. Always read and follow product labels
- 2. Always use personal protective equipment when mixing, loading, and applying

Chemical Name	Product Name(s)	Where Used	How/Why Used	Notes/Recommendations	Restrictions	Cautions
2,4-D	Weedar 64 Amine 4 Veteran 720 Curtail WeedDestroy Platoon Crossbow Escalade Weedmaster Solution Savage Weedone LV4	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Ester and acid formulations of 2,4-D may provide a good alternative to amine formulations. A number of the 2,4-D products come premixed with other herbicides.	Amine formulations of 2,4-D are restricted for use within 60' of all water	Amine formulations cause irreversible eye damage and are highly toxic to rainbow trout. All 2,4-D products pose risks when applied near grapes and other sensitive crops.
Bromacil	Krovar 1 DF Hyvar	Zone 1	Nonselective pre-emergent grass and weed control	Krovar and Hyvar are premixed with diuron	<u>Westside</u> - Restricted for use <u>Eastside</u> - Krovar restricted for use within 60' of all water	Bromacil is potentially mobile in soil, use caution if rain is possible.
Bromoxynil	Buctril 2EC BroClean Brox 2E	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Effective broadleaf weed control without grass seed suppression	<u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water	Highly toxic to fresh water fish
Chlorsulfuron	Telar XP Landmark XP	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Product highly effective on Canadian thistle and horsetail. Landmark is premixed with Oust.	None	None
Clopyralid	Transline Curtail Pathfinder	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Curtail is premixed with 2,4-D, Pathfinder is premixed with triclopyr	Curtail and Pathfinder are restricted for use within 60' of all water because of mixture with other restricted herbicides.	Curtail contains 2,4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout
Dicamba	Vanquish Veteran 720	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Vanquish is the dicamba formulation without 2,4-D	Veteran 720 is restricted for use within 60' of all water because of 2,4-D amine content	Veteran 720 contains 2-4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout
Dichlobenil	Norosac 4G Casoron	Ornamental planting beds	Pre-emergent weed control in ground cover beds. Post emergent control of grasses.	Highly effective for pre-emergent control of unwanted weeds in ornamentals	Restricted for use within 60' of all water	Dichlobenil is highly toxic to aquatic insects
Diflufenzopyr	Overdrive	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	None	None	None
Diuron	Karmex Diuron 4 L Diuron 80 DF	Zone 1	Nonselective pre-emergent grass and weed control	Cost effective weed control for Zone 1 in Eastern Washington	<u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water	Highly toxic to fish.
Flumioxazin	Payload	Zone 1	Nonselective pre-emergent grass and weed control	Second year of use in zone 1, still evaluating	Restricted for use within 60' of all salt water	Highly toxic to estuarine invertebrates
Fluroxypyr	Vista	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	None	None	Highly toxic to Eastern Oyster, high surface runoff potential
Fosamine	Krenite S	Tree and brush control in Zones 2 & 3	Selective broadleaf treatment	Effective broadleaf tree control without visual impacts	None	None
Glyphosate	Roundup Pro Razor Pro Buccaneer Aquaneat Rodeo Aquamaster	Zone 1, spot spray around shrub and tree plantings, aquatic weed control (Rodeo, Aquamaster)	Nonselective control of all vegetation	Rodeo, Aquamaster and Aquaneat are approved for use in or over water. Aquatic versions of glyphosate products are approved for use with NPDES permit.	None	None
Imazapyr	Arsenal Habitat	Zone 1	Pre and post-emergent non-selective control of all vegetation	Habitat is an aquatic version of Arsenal - good alternative to glyphosate in certain cases	None	High surface runoff potential, potentially mobile in soil if rain is possible.
Isoxaben	Gallery 75DF	Turf & Ornamental	Pre-emergent weed control in ground cover beds	Works well by itself or with Ronstar	Restricted for use within 60' of all water	High surface runoff potential
Metsulfuron-methyl	Escort XP Metsulfuron Methyl 60 DF	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf and conifer treatment	None	None	None
Norflurazon	Predict	Zone 1	Pre-emergent Weed control in Zone 1 and ground cover beds	Good Zone 1 product but may be difficult to keep in suspension	Restricted for use within 60' of all water	High surface runoff potential
Oryzalin	Oryzalin A.S. Surflan A.S	Zone 1 Ornamental planting beds	Pre-emergent Weed control in Zone 1 and ground cover beds	Product requires additional rinsing to thoroughly remove residues from empty container	Restricted for use within 60' of all water	Highly toxic to fish
Oxadiazon	Ronstar G Ronstar WSP	Turf & Ornamental	Pre-emergent weed control in ground cover beds	Works well by itself or with Gallery	Restricted for use within 60' of all water, gardens, plants bearing edible fruit	Highly toxic to fish
Pendimethalin	Pendulum 2G Pendulum Aqua	Zone 1 Turf & Ornamental	Nonselective Pre-emergent grass and weed control	None	<u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water	Highly toxic to fish, high potential for loss on eroded soil
Picloram	Tordon	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Highly effective for conifer and broadleaf weed control in Eastern Washington	<u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water	Highly mobile in soil and readily adsorbed through roots of desirable trees
Pyraflufen	Edict	Noxious and nuisance weed control, Zones 2 and 3	2,-4-D substitute, effective on Kochia, Russian thistle	Effective with Roundup for Kochia control	Restricted for use within 60' of all water	Irreversible eye damage, highly toxic to Rainbow Trout
Sulfentrazone	Portfolio	Zone 1	Nonselective pre-emergent grass and weed control	New product available for use in 2006	<u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water	High surface runoff potential, potentially mobile in soil if rain is possible.
Sulfometuron-methyl	Oust Landmark XP	Zone 1	Nonselective pre/post emergent grass and weed control	Landmark is premixed with Telar	None	None
Tebuthiuron	Spike 80DF	Zone 1	Nonselective pre-emergent grass and weed control	None	<u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water	High surface runoff potential, potentially mobile in soil if rain is possible.
Triclopyr Amine	Garlon 3A	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	None	None	Irreversible eye damage
Triclopyr Ester	Garlon 4 Crossbow Pathfinder	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Works well for invert applications. Crossbow is premixed with 2,4-D, Pathfinder with clopyralid	Restricted for use within 60' of all water	Highly toxic to fish

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
017	Increase	RS	Dalmation Toadflax	71.25	71.26	Low
017	Increase	RS	Dalmation Toadflax	71.58	71.59	Low
017	Increase	RS	Dalmation Toadflax	71.82	71.83	Low
017	Increase	RS	Dalmation Toadflax	75.17	75.18	Low
017	Decrease	RS	Dalmation Toadflax	71.91	71.84	Low
017	Decrease	RS	Dalmation Toadflax	71.33	71.32	Low
017	Increase	RS	Knapweed	20.45	20.51	Low
017	Increase	RS	Knapweed	44.03	44.54	Low
017	Increase	RS	Knapweed	50.30	50.36	Low
017	Increase	RS	Knapweed	55.00	55.43	Low
017	Increase	RS	Knapweed	55.80	55.82	Low
017	Increase	RS	Knapweed	57.17	58.84	Low
017	Increase	RS	Knapweed	59.14	59.22	Low
017	Increase	RS	Knapweed	69.74	69.89	Low
017	Increase	RS	Knapweed	71.85	71.86	Low
017	Decrease	RS	Knapweed	73.89	73.83	Low
017	Decrease	RS	Knapweed	70.25	70.24	Low
017	Decrease	RS	Knapweed	69.98	69.97	Low
017	Decrease	RS	Knapweed	69.66	69.65	Low
017	Decrease	RS	Knapweed	68.75	68.74	Low
017	Decrease	RS	Knapweed	68.45	68.37	Low
017	Decrease	RS	Knapweed	63.57	63.55	Low
017	Decrease	RS	Knapweed	54.97	54.96	Low
017	Decrease	RS	Knapweed	53.89	53.88	Low
017	Decrease	RS	Knapweed	50.54	50.20	Low
017	Decrease	RS	Knapweed	43.66	43.02	Low
017	Decrease	RS	Knapweed	42.71	42.70	Low
017	Increase	RS	Puncturevine	22.17	22.18	Low
017	Increase	RS	Puncturevine	22.69	23.03	High
017	Increase	RS	Puncturevine	23.45	23.88	High
017	Increase	RS	Puncturevine	32.14	32.15	Low
017	Decrease	RS	Puncturevine	57.30	57.24	Low
017	Decrease	RS	Puncturevine	34.19	34.14	Low
017	Increase	RS	Purple Loosestrife	53.16	53.17	Low
017	Increase	RS	Purple Loosestrife	54.30	54.31	Low
024	Increase	RS	Knapweed	45.67	52.00	Low
024	Increase	RS	Knapweed	72.39	72.54	Low
024	Increase	RS	Knapweed	72.90	73.19	Low
024	Decrease	RS	Knapweed	72.48	72.35	Low
024	Decrease	RS	Knapweed	52.40	51.62	Low
024	Decrease	RS	Knapweed	50.55	47.65	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
024	Decrease	RS	Knapweed	46.60	45.39	Low
024	Decrease	RS	Knapweed	45.05	44.46	Low
024	Decrease	RS	Knapweed	44.26	44.46	Low
024	Increase	RS	Puncturevine	75.97	76.10	Low
024	Decrease	RS	Puncturevine	76.60	76.53	Low
024	Decrease	RS	Puncturevine	74.55	74.54	Low
026	Increase	RS	Knapweed	0.17	0.18	Low
026	Increase	RS	Knapweed	0.73	0.75	Low
026	Increase	RS	Knapweed	1.16	1.17	Low
026	Increase	RS	Knapweed	5.27	5.30	Low
026	Increase	RS	Knapweed	6.63	6.64	Low
026	Increase	RS	Knapweed	17.60	18.23	Low
026	Increase	RS	Knapweed	17.60	17.95	Low
026	Increase	RS	Knapweed	20.62	20.83	Low
026	Increase	RS	Knapweed	21.50	21.69	Low
026	Increase	RS	Knapweed	21.90	22.03	Low
026	Increase	RS	Knapweed	22.17	22.19	Low
026	Increase	RS	Knapweed	22.42	22.43	Low
026	Increase	RS	Knapweed	22.89	22.92	Low
026	Increase	RS	Knapweed	23.70	23.75	Low
026	Increase	RS	Knapweed	25.44	25.45	Low
026	Increase	RS	Knapweed	25.53	25.54	Low
026	Increase	RS	Knapweed	25.68	25.79	Low
026	Increase	RS	Knapweed	26.27	26.54	Low
026	Increase	RS	Knapweed	27.11	27.51	Low
026	Increase	RS	Knapweed	27.54	28.06	Low
026	Increase	RS	Knapweed	28.76	28.81	Low
026	Decrease	RS	Knapweed	35.75	35.74	Low
026	Decrease	RS	Knapweed	35.52	35.51	Low
026	Decrease	RS	Knapweed	34.71	34.70	Low
026	Decrease	RS	Knapweed	29.62	29.61	Low
026	Decrease	RS	Knapweed	29.49	29.41	Low
026	Decrease	RS	Knapweed	29.29	29.28	Low
026	Decrease	RS	Knapweed	26.50	25.00	Low
026	Decrease	RS	Knapweed	24.75	24.50	Low
026	Decrease	RS	Knapweed	23.97	23.96	Low
026	Decrease	RS	Knapweed	23.72	23.71	Low
026	Decrease	RS	Knapweed	22.94	22.90	Low
026	Decrease	RS	Knapweed	21.97	21.78	Low
026	Decrease	RS	Knapweed	7.36	6.97	Low
026	Decrease	RS	Knapweed	5.23	5.18	Low
026	Decrease	RS	Knapweed	1.17	1.03	Low
026	Decrease	RS	Knapweed	0.98	0.82	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
026	Decrease	RS	Perennial Pepperweed	41.80	41.79	Low
026	Decrease	RS	Puncturevine	28.49	28.43	Low
026	Decrease	RS	Puncturevine	28.16	28.10	Low
026	Increase	RS	Purple Loosestrife	15.07	15.09	Low
026	Increase	RS	Purple Loosestrife	16.57	16.52	Low
026	Increase	RS	Purple Loosestrife	16.86	16.87	Low
026	Increase	RS	Purple Loosestrife	20.39	20.40	Low
026	Increase	RS	Purple Loosestrife	22.13	22.14	Low
026	Increase	RS	Purple Loosestrife	32.30	32.33	Low
026	Decrease	RS	Purple Loosestrife	29.88	29.81	Low
026	Decrease	RS	Purple Loosestrife	22.09	22.08	Low
026	Decrease	RS	Purple Loosestrife	12.22	12.16	Low
026	Decrease	RS	Purple Loosestrife	11.53	11.51	Low
026	Decrease	RS	Purple Loosestrife	5.28	5.27	Low
028	Increase	RS	Dalmation Toadflax	55.91	55.94	Low
028	Increase	RS	Dalmation Toadflax	57.07	57.10	Low
028	Increase	RS	Dalmation Toadflax	57.76	57.77	Low
028	Increase	RS	Dalmation Toadflax	58.51	59.01	Low
028	Increase	RS	Dalmation Toadflax	59.18	59.26	Low
028	Increase	RS	Dalmation Toadflax	59.61	59.62	Low
028	Increase	RS	Dalmation Toadflax	59.68	59.99	Low
028	Increase	RS	Dalmation Toadflax	60.31	60.55	Low
028	Increase	RS	Dalmation Toadflax	64.21	64.22	Low
028	Increase	RS	Dalmation Toadflax	65.61	65.63	Low
028	Increase	RS	Dalmation Toadflax	66.00	66.01	Low
028	Decrease	RS	Dalmation Toadflax	60.34	60.33	Low
028	Decrease	RS	Dalmation Toadflax	59.67	59.51	Low
028	Decrease	RS	Dalmation Toadflax	58.97	58.50	Low
028	Decrease	RS	Dalmation Toadflax	53.97	53.91	Low
028	Decrease	RS	Dalmation Toadflax	51.47	51.16	Low
028	Increase	RS	Knapweed	22.24	22.25	Low
028	Increase	RS	Knapweed	23.32	23.33	Low
028	Increase	RS	Knapweed	23.50	23.51	Low
028	Increase	RS	Knapweed	24.31	24.32	Low
028	Increase	RS	Knapweed	24.72	24.80	Low
028	Increase	RS	Knapweed	26.46	26.47	Low
028	Increase	RS	Knapweed	40.85	40.86	Low
028	Increase	RS	Knapweed	42.55	42.56	Low
028	Increase	RS	Knapweed	43.39	43.40	Low
028	Increase	RS	Knapweed	49.18	49.19	Low
028	Increase	RS	Knapweed	49.97	50.20	Low
028	Increase	RS	Knapweed	54.76	54.90	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
028	Increase	RS	Knapweed	63.33	63.34	Low
028	Increase	RS	Knapweed	65.93	65.94	Low
028	Increase	RS	Knapweed	66.34	66.69	Low
028	Increase	RS	Knapweed	66.84	67.20	Low
028	Decrease	RS	Knapweed	69.89	69.55	Low
028	Decrease	RS	Knapweed	68.84	68.64	Low
028	Decrease	RS	Knapweed	66.80	68.72	Low
028	Decrease	RS	Knapweed	66.25	66.03	Low
028	Decrease	RS	Knapweed	63.49	63.36	Low
028	Decrease	RS	Knapweed	55.43	55.35	Low
028	Decrease	RS	Knapweed	55.15	55.11	Low
028	Decrease	RS	Knapweed	54.90	54.71	Low
028	Decrease	RS	Knapweed	54.65	54.63	Low
028	Decrease	RS	Knapweed	48.66	48.65	Low
028	Decrease	RS	Knapweed	23.03	23.02	Low
028	Decrease	RS	Knapweed	22.39	22.38	Low
028	Increase	RS	Puncturevine	25.58	25.59	Low
028	Increase	RS	Puncturevine	34.78	34.79	Low
028	Increase	RS	Puncturevine	37.25	37.26	Low
028	Increase	RS	Puncturevine	44.97	45.15	Low
028	Increase	RS	Puncturevine	50.27	50.35	Low
028	Increase	RS	Puncturevine	52.35	52.35	Low
028	Increase	RS	Puncturevine	60.78	60.79	Low
028	Decrease	RS	Puncturevine	51.95	51.94	Low
028	Decrease	RS	Puncturevine	29.15	28.80	Low
028	Decrease	RS	Puncturevine	28.17	28.15	Low
028	Decrease	RS	Puncturevine	27.98	27.88	Low
028	Decrease	RS	Puncturevine	25.48	25.46	Low
028	Increase	RS	Purple Loosestrife	26.69	26.76	Low
028	Increase	RS	Purple Loosestrife	44.33	44.34	Low
028	Increase	RS	Purple Loosestrife	44.75	44.80	Low
028	Decrease	RS	Purple Loosestrife	45.19	45.18	Low
028	Decrease	RS	Purple Loosestrife	45.06	44.95	Low
028	Decrease	RS	Purple Loosestrife	44.54	44.53	Low
028	Decrease	RS	Purple Loosestrife	40.63	40.67	Low
028	Decrease	RS	Purple Loosestrife	26.70	26.03	Low
028	Decrease	RS	Purple Loosestrife	24.31	24.22	Low
028	Decrease	RS	Yellow Nutsedge	40.30	39.67	Low
090	Increase	RS	Knapweed	169.00	174.95	Low
090	Increase	RS	Knapweed	176.52	176.74	Low
090	Increase	RS	Knapweed	177.49	177.50	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
090	Increase	RS	Knapweed	177.77	178.28	Low
090	Increase	RS	Knapweed	178.64	178.95	Low
090	Increase	RS	Knapweed	179.18	179.19	Low
090	Increase	RS	Knapweed	179.42	179.43	Low
090	Decrease	RS	Knapweed	191.70	191.39	High
090	Decrease	RS	Knapweed	191.69	191.70	Low
090	Decrease	RS	Knapweed	191.25	191.27	Low
090	Decrease	RS	Knapweed	191.19	190.15	High
090	Decrease	RS	Knapweed	176.27	176.25	Low
090	Decrease	RS	Knapweed	171.20	169.91	Low
090	Decrease	RS	Knapweed	169.30	169.20	Low
090	Decrease	RS	Knapweed	168.85	186.80	Low
090	Decrease	RS	Knapweed	168.15	168.10	Low
090	Decrease	RS	Knapweed	167.19	167.10	Low
090	Decrease	RS	Knapweed	166.34	166.28	Low
090	Decrease	RS	Knapweed	165.34	165.30	Low
090	Decrease	RS	Knapweed	147.20	147.19	Low
090	Decrease	RS	Perennial Pepperweed	191.38	191.39	Low
090	Decrease	RS	Perennial Pepperweed	190.97	190.98	Low
090	Decrease	RS	Perennial Pepperweed	190.40	190.41	Low
090	Decrease	RS	Perennial Pepperweed	176.32	176.31	Low
090	Decrease	RS	Perennial Pepperweed	190.20	190.69	Low
090	Increase	LS	Purple Loosestrife	144.14	144.15	Low
090	Increase	RS	Purple Loosestrife	174.67	174.69	Low
090	Decrease	RS	Purple Loosestrife	144.42	144.23	Low
090	Decrease	RS	Purple Loosestrife	144.15	144.05	Low
170	Decrease	RS	Puncturevine	2.05	2.04	Low
243	Increase	RS	Knapweed	0.45	0.69	Low
243	Increase	RS	Knapweed	0.84	1.00	Low
243	Increase	RS	Knapweed	2.46	2.63	Low
243	Increase	RS	Knapweed	2.87	2.88	Low
243	Increase	RS	Knapweed	3.34	5.39	Low
243	Increase	RS	Knapweed	4.78	6.40	Low
243	Increase	RS	Knapweed	7.55	7.74	Low
243	Increase	RS	Knapweed	7.93	8.00	Low
243	Increase	RS	Knapweed	8.16	8.27	Low
243	Increase	RS	Knapweed	8.40	8.65	Low
243	Increase	RS	Knapweed	9.95	9.98	Low
243	Increase	RS	Knapweed	10.39	10.41	Low
243	Increase	RS	Knapweed	11.25	11.26	Low
243	Increase	RS	Knapweed	12.47	12.50	Low
243	Increase	RS	Knapweed	12.79	12.78	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
243	Increase	RS	Knapweed	13.30	13.33	Low
243	Increase	RS	Knapweed	14.44	14.45	Low
243	Increase	RS	Knapweed	16.13	16.45	Low
243	Increase	RS	Knapweed	19.75	21.15	Low
243	Increase	RS	Knapweed	20.36	21.51	Low
243	Increase	RS	Knapweed	21.88	22.10	Low
243	Increase	RS	Knapweed	22.26	22.28	Low
243	Decrease	RS	Knapweed	25.09	25.08	Low
243	Decrease	RS	Knapweed	24.66	24.65	Low
243	Decrease	RS	Knapweed	24.20	23.89	Low
243	Decrease	RS	Knapweed	23.28	23.00	Low
243	Decrease	RS	Knapweed	22.24	22.23	Low
243	Decrease	RS	Knapweed	21.99	20.04	Low
243	Decrease	RS	Knapweed	19.05	19.04	Low
243	Decrease	RS	Knapweed	16.61	15.95	Low
243	Decrease	RS	Knapweed	15.39	15.21	Low
243	Decrease	RS	Knapweed	14.30	14.06	Low
243	Decrease	RS	Knapweed	13.39	12.95	Low
243	Decrease	RS	Knapweed	11.26	11.14	Low
243	Decrease	RS	Knapweed	11.06	10.90	Low
243	Decrease	RS	Knapweed	10.47	10.17	Low
243	Decrease	RS	Knapweed	9.85	9.45	Low
243	Decrease	RS	Knapweed	9.17	8.35	Low
243	Decrease	RS	Knapweed	8.11	7.86	Low
243	Decrease	RS	Knapweed	5.79	5.76	Low
243	Decrease	RS	Knapweed	5.24	5.23	Low
243	Decrease	RS	Knapweed	4.53	4.52	Low
243	Decrease	RS	Knapweed	4.17	3.06	Low
243	Decrease	RS	Knapweed	2.75	2.56	Low
243	Decrease	RS	Knapweed	0.95	0.52	Low
243	Increase	RS	Puncturevine	6.94	7.00	Low
243	Increase	RS	Puncturevine	9.06	9.87	Low
243	Increase	RS	Puncturevine	14.84	15.03	Low
243	Increase	RS	Puncturevine	15.29	15.30	Low
243	Increase	RS	Puncturevine	15.42	15.75	Low
243	Increase	RS	Puncturevine	16.54	16.79	Low
243	Increase	RS	Puncturevine	17.00	17.12	Low
243	Increase	RS	Puncturevine	26.20	26.21	Low
243	Increase	RS	Puncturevine	26.68	26.71	Low
243	Decrease	RS	Puncturevine	16.17	16.16	Low
243	Decrease	RS	Puncturevine	15.04	14.95	Low
243	Decrease	RS	Puncturevine	14.43	14.33	Low
243	Decrease	RS	Puncturevine	13.68	13.44	Low
243	Decrease	RS	Puncturevine	10.10	9.97	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
243	Increase	RS	Purple Loosestrife	18.35	18.40	Low
243	Decrease	RS	Purple Loosestrife	25.28	25.26	Low
243	Decrease	RS	Purple Loosestrife	18.12	17.69	Low
262	Decrease	RS	Knapweed	16.47	16.45	Low
262	Decrease	RS	Knapweed	6.18	6.17	Low
262	Decrease	RS	Knapweed	1.46	1.40	Low
262	Increase	RS	Puncturevine	1.29	1.30	Low
262	Increase	RS	Puncturevine	7.92	7.93	Low
262	Increase	RS	Puncturevine	9.55	9.56	Low
262	Increase	RS	Puncturevine	11.45	11.46	Low
262	Decrease	RS	Puncturevine	6.65	6.57	Low
262	Decrease	RS	Puncturevine	3.32	2.88	Low
262	Increase	RS	Purple Loosestrife	4.14	4.15	Low
262	Decrease	RS	Purple Loosestrife	10.90	10.66	Low
281	Increase	RS	Puncturevine	6.76	6.77	Low
281	Decrease	RS	Puncturevine	8.28	7.62	Low
281	Decrease	RS	Puncturevine	1.53	1.42	Low
282	Increase	RS	Knapweed	0.64	0.71	Low
282	Increase	RS	Knapweed	2.21	2.33	Low
282	Increase	RS	Knapweed	3.30	3.31	Low
282	Increase	RS	Knapweed	4.53	4.54	Low
282	Increase	RS	Knapweed	4.79	4.80	Low
282	Decrease	RS	Knapweed	4.61	4.60	Low
282	Decrease	RS	Knapweed	2.48	2.47	Low
282	Decrease	RS	Knapweed	1.13	1.12	Low
282	Decrease	RS	Knapweed	0.52	0.51	Low
283	Increase	RS	Knapweed	14.15	14.36	Low
283	Decrease	RS	Knapweed	14.23	14.21	Low
283	Decrease	RS	Knapweed	14.10	13.73	Low
283	Decrease	RS	Knapweed	13.57	13.52	Low
283	Decrease	RS	Knapweed	9.39	9.36	Low
283	Increase	RS	Puncturevine	0.34	0.35	Low
283	Increase	RS	Puncturevine	1.69	1.70	Low
283	Increase	RS	Puncturevine	5.01	5.05	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
283	Decrease	RS	Puncturevine	1.55	1.54	Low
283	Increase	RS	Purple Loosestrife	9.16	9.17	Low

Appendix C

Nuisance Weed Locations

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
017	Increase	RS	Canada Thistle	17.63	17.64	Low
017	Increase	RS	Canada Thistle	18.00	18.01	Low
017	Increase	RS	Canada Thistle	19.48	19.55	High
017	Increase	RS	Canada Thistle	20.14	20.31	Low
017	Increase	RS	Canada Thistle	25.77	26.06	Low
017	Increase	RS	Canada Thistle	26.61	26.62	Low
017	Increase	RS	Canada Thistle	27.50	27.60	Low
017	Increase	RS	Canada Thistle	28.51	28.58	Low
017	Increase	RS	Canada Thistle	28.91	28.96	Low
017	Increase	RS	Canada Thistle	29.30	29.37	Low
017	Increase	RS	Canada Thistle	29.58	29.59	Low
017	Increase	RS	Canada Thistle	30.91	31.05	Low
017	Increase	RS	Canada Thistle	34.36	34.43	Low
017	Increase	RS	Canada Thistle	34.68	35.49	Low
017	Increase	RS	Canada Thistle	39.23	39.24	Low
017	Increase	RS	Canada Thistle	39.70	39.71	Low
017	Increase	RS	Canada Thistle	40.47	40.60	Low
017	Increase	RS	Canada Thistle	51.80	51.81	Low
017	Increase	RS	Canada Thistle	53.06	53.19	Low
017	Increase	RS	Canada Thistle	53.48	53.80	Low
017	Increase	RS	Canada Thistle	53.80	53.86	High
017	Increase	RS	Canada Thistle	53.80	54.48	Low
017	Increase	RS	Canada Thistle	66.52	66.69	Low
017	Increase	RS	Canada Thistle	74.17	74.18	Low
017	Increase	RS	Canada Thistle	84.59	84.60	Low
017	Increase	RS	Canada Thistle	85.60	85.71	Low
017	Increase	RS	Canada Thistle	85.90	85.91	Low
017	Decrease	RS	Canada Thistle	87.31	87.30	Low
017	Decrease	RS	Canada Thistle	84.99	84.97	Low
017	Decrease	RS	Canada Thistle	76.65	76.64	Low
017	Decrease	RS	Canada Thistle	75.30	75.29	Low
017	Decrease	RS	Canada Thistle	66.59	66.53	Low
017	Decrease	RS	Canada Thistle	54.35	54.20	Low
017	Decrease	RS	Canada Thistle	53.92	53.45	Low
017	Decrease	RS	Canada Thistle	51.97	51.86	Low
017	Decrease	RS	Canada Thistle	48.66	48.65	Low
017	Decrease	RS	Canada Thistle	48.20	48.19	Low
017	Decrease	RS	Canada Thistle	47.82	47.76	Low
017	Decrease	RS	Canada Thistle	43.33	43.32	Low
017	Decrease	RS	Canada Thistle	37.49	37.44	Low
017	Decrease	RS	Canada Thistle	28.93	28.92	Low
017	Decrease	RS	Canada Thistle	27.88	27.81	Low
017	Decrease	RS	Canada Thistle	27.51	27.38	High
017	Decrease	RS	Canada Thistle	26.04	22.52	Low
017	Increase	RS	China Lettuce	14.85	17.58	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
017	Increase	RS	China Lettuce	19.10	20.70	Low
017	Increase	RS	China Lettuce	21.83	21.85	Low
017	Increase	RS	China Lettuce	22.40	24.24	Low
017	Increase	RS	China Lettuce	24.55	26.06	Low
017	Increase	RS	China Lettuce	27.50	29.00	Low
017	Increase	RS	China Lettuce	30.55	31.42	Low
017	Increase	RS	China Lettuce	34.16	34.25	High
017	Increase	RS	China Lettuce	34.43	35.75	Low
017	Increase	RS	China Lettuce	36.68	38.00	Low
017	Increase	RS	China Lettuce	38.00	38.78	Low
017	Increase	RS	China Lettuce	39.17	39.24	Low
017	Increase	RS	China Lettuce	39.56	41.00	Low
017	Increase	RS	China Lettuce	43.63	43.76	Low
017	Increase	RS	China Lettuce	44.70	44.87	Low
017	Increase	RS	China Lettuce	45.30	46.40	Low
017	Increase	RS	China Lettuce	46.83	46.88	Low
017	Increase	RS	China Lettuce	47.04	47.07	Low
017	Increase	RS	China Lettuce	50.20	50.36	Low
017	Increase	RS	China Lettuce	59.98	59.99	Low
017	Increase	RS	China Lettuce	61.98	63.72	Low
017	Increase	RS	China Lettuce	63.92	66.11	Low
017	Increase	RS	China Lettuce	66.69	66.88	Low
017	Increase	RS	China Lettuce	67.05	67.45	Low
017	Increase	RS	China Lettuce	69.97	74.50	Low
017	Increase	RS	China Lettuce	77.45	77.46	Low
017	Increase	RS	China Lettuce	77.61	77.62	Low
017	Increase	RS	China Lettuce	77.99	78.01	Low
017	Increase	RS	China Lettuce	83.39	83.40	Low
017	Increase	RS	China Lettuce	84.50	84.71	Low
017	Increase	RS	China Lettuce	85.86	85.87	Low

017	Decrease	RS	China Lettuce	85.24	85.23	Low
017	Decrease	RS	China Lettuce	81.93	81.72	Low
017	Decrease	RS	China Lettuce	79.97	79.92	Low
017	Decrease	RS	China Lettuce	79.27	78.83	Low
017	Decrease	RS	China Lettuce	78.30	78.06	Low
017	Decrease	RS	China Lettuce	75.36	75.28	Low
017	Decrease	RS	China Lettuce	74.52	74.51	Low
017	Decrease	RS	China Lettuce	74.09	73.99	Low
017	Decrease	RS	China Lettuce	73.33	70.50	Low
017	Decrease	RS	China Lettuce	70.29	67.04	Low
017	Decrease	RS	China Lettuce	65.45	61.23	Low
017	Decrease	RS	China Lettuce	50.50	50.45	Low
017	Decrease	RS	China Lettuce	49.20	44.28	Low
017	Decrease	RS	China Lettuce	43.75	43.68	Low
017	Decrease	RS	China Lettuce	43.03	43.02	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
017	Decrease	RS	China Lettuce	42.55	42.32	Low
017	Decrease	RS	China Lettuce	42.01	41.91	Low
017	Decrease	RS	China Lettuce	41.75	41.31	Low
017	Decrease	RS	China Lettuce	41.07	40.82	Low
017	Decrease	RS	China Lettuce	40.75	40.10	Low
017	Decrease	RS	China Lettuce	39.50	38.98	Low
017	Decrease	RS	China Lettuce	38.62	32.88	Low
017	Decrease	RS	China Lettuce	27.81	27.63	Low
017	Decrease	RS	China Lettuce	26.56	26.51	Low
017	Decrease	RS	China Lettuce	26.04	25.27	Low
017	Decrease	RS	China Lettuce	25.00	24.78	Low
017	Decrease	RS	China Lettuce	23.80	23.01	Low
017	Decrease	RS	China Lettuce	21.86	21.80	Low
017	Decrease	RS	China Lettuce	21.53	21.15	Low
017	Decrease	RS	China Lettuce	19.80	18.37	Low
017	Decrease	RS	China Lettuce	17.50	14.70	Low

017	Increase	RS	Kochia	14.70	17.90	Low
017	Increase	RS	Kochia	17.90	18.35	High
017	Increase	RS	Kochia	18.35	29.00	Low
017	Increase	RS	Kochia	28.37	38.00	Low
017	Increase	RS	Kochia	38.00	51.00	Low
017	Increase	RS	Kochia	51.00	59.19	Low
017	Increase	RS	Kochia	58.83	63.72	Low
017	Increase	RS	Kochia	63.92	75.26	Low
017	Increase	RS	Kochia	75.27	75.48	Low
017	Increase	RS	Kochia	76.00	77.00	Low
017	Increase	RS	Kochia	79.15	84.50	Low
017	Increase	RS	Kochia	85.60	86.00	Low
017	Increase	RS	Kochia	86.75	87.42	Low

017	Decrease	RS	Kochia	87.42	76.00	Low
017	Decrease	RS	Kochia	75.44	73.60	Low
017	Decrease	RS	Kochia	73.28	70.60	Low
017	Decrease	RS	Kochia	69.28	68.96	Low
017	Decrease	RS	Kochia	68.96	68.71	High
017	Decrease	RS	Kochia	68.91	67.04	Low
017	Decrease	RS	Kochia	66.87	66.30	Low
017	Decrease	RS	Kochia	65.91	58.85	Low
017	Decrease	RS	Kochia	59.19	51.00	Low
017	Decrease	RS	Kochia	51.00	28.37	Low
017	Decrease	RS	Kochia	26.06	24.05	Low
017	Decrease	RS	Kochia	23.93	23.01	Low
017	Decrease	RS	Kochia	21.75	19.00	Low
017	Decrease	RS	Kochia	19.00	18.68	High
017	Decrease	RS	Kochia	18.68	18.55	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
017	Decrease	RS	Kochia	18.55	17.77	High
017	Decrease	RS	Kochia	17.77	14.70	Low
017	Increase	RS	Mullein	17.58	17.59	Low
017	Increase	RS	Mullein	19.51	19.55	Low
017	Increase	RS	Mullein	22.47	22.56	Low
017	Increase	RS	Mullein	23.32	23.38	Low
017	Increase	RS	Mullein	34.21	34.34	Low
017	Increase	RS	Mullein	34.44	34.45	Low
017	Increase	RS	Mullein	34.68	35.40	Low
017	Increase	RS	Mullein	37.83	37.85	Low
017	Increase	RS	Mullein	38.63	38.64	Low
017	Increase	RS	Mullein	39.23	39.24	Low
017	Increase	RS	Mullein	46.18	46.25	Low
017	Increase	RS	Mullein	47.73	47.88	Low
017	Increase	RS	Mullein	48.51	58.53	Low
017	Increase	RS	Mullein	49.34	49.35	Low
017	Increase	RS	Mullein	49.69	49.70	Low
017	Increase	RS	Mullein	53.09	53.10	Low
017	Increase	RS	Mullein	68.68	68.79	Low
017	Increase	RS	Mullein	73.52	73.53	Low
017	Increase	RS	Mullein	82.44	82.45	Low
017	Increase	RS	Mullein	82.78	82.81	Low
017	Increase	RS	Mullein	84.94	84.95	Low
017	Increase	RS	Mullein	85.71	85.72	Low
017	Decrease	RS	Mullein	84.51	84.50	Low
017	Decrease	RS	Mullein	83.83	83.81	Low
017	Decrease	RS	Mullein	82.55	82.49	Low
017	Decrease	RS	Mullein	82.35	82.34	Low
017	Decrease	RS	Mullein	78.20	78.06	Low
017	Decrease	RS	Mullein	68.64	68.63	Low
017	Decrease	RS	Mullein	53.58	53.54	Low
017	Decrease	RS	Mullein	51.97	51.86	Low
017	Decrease	RS	Mullein	51.51	51.50	Low
017	Decrease	RS	Mullein	48.55	48.54	Low
017	Decrease	RS	Mullein	48.11	48.10	Low
017	Decrease	RS	Mullein	47.77	47.77	Low
017	Decrease	RS	Mullein	47.62	47.29	Low
017	Decrease	RS	Mullein	47.07	47.05	Low
017	Decrease	RS	Mullein	39.14	39.13	Low
017	Decrease	RS	Mullein	38.11	37.70	Low
017	Decrease	RS	Mullein	35.69	35.68	Low
017	Decrease	RS	Mullein	25.13	25.17	Low
017	Decrease	RS	Mullein	24.93	24.88	Low
017	Decrease	RS	Mullein	24.78	24.77	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
017	Decrease	RS	Mullein	23.33	23.08	Low
017	Decrease	RS	Mullein	19.10	19.01	Low
017	Increase	RS	Russian Thistle	14.70	29.00	Low
017	Increase	RS	Russian Thistle	28.37	38.00	Low
017	Increase	RS	Russian Thistle	38.00	51.00	Low
017	Increase	RS	Russian Thistle	51.00	59.19	Low
017	Increase	RS	Russian Thistle	58.83	63.72	Low
017	Increase	RS	Russian Thistle	63.92	75.26	Low
017	Increase	RS	Russian Thistle	75.27	75.48	Low
017	Increase	RS	Russian Thistle	76.00	77.46	Low
017	Increase	RS	Russian Thistle	77.70	77.21	Low
017	Increase	RS	Russian Thistle	78.26	87.42	Low
017	Decrease	RS	Russian Thistle	87.42	76.00	Low
017	Decrease	RS	Russian Thistle	75.44	73.60	Low
017	Decrease	RS	Russian Thistle	73.42	70.60	Low
017	Decrease	RS	Russian Thistle	70.10	69.65	Low
017	Decrease	RS	Russian Thistle	69.28	67.04	Low
017	Decrease	RS	Russian Thistle	66.87	66.30	Low
017	Decrease	RS	Russian Thistle	65.91	58.85	Low
017	Decrease	RS	Russian Thistle	59.19	51.00	Low
017	Decrease	RS	Russian Thistle	51.00	28.37	Low
017	Decrease	RS	Russian Thistle	26.06	24.05	Low
017	Decrease	RS	Russian Thistle	23.93	23.01	Low
017	Decrease	RS	Russian Thistle	23.84	14.40	Low
024	Increase	RS	Canada Thistle	74.05	74.06	Low
024	Increase	RS	Canada Thistle	74.26	74.31	Low
024	Increase	RS	Canada Thistle	74.50	74.52	Low
024	Increase	RS	Canada Thistle	74.94	74.98	Low
024	Increase	RS	Canada Thistle	76.48	76.54	Low
024	Increase	RS	Canada Thistle	77.13	77.20	Low
024	Increase	RS	Canada Thistle	77.42	77.47	Low
024	Increase	RS	Canada Thistle	79.04	79.05	Low
024	Decrease	RS	Canada Thistle	75.02	74.98	Low
024	Decrease	RS	Canada Thistle	71.76	71.75	Low
024	Decrease	RS	Canada Thistle	51.88	51.86	Low
024	Increase	RS	China Lettuce	46.24	46.25	Low
024	Increase	RS	China Lettuce	50.98	51.22	Low
024	Increase	RS	China Lettuce	51.40	51.52	Low
024	Increase	RS	China Lettuce	51.84	54.81	Low
024	Increase	RS	China Lettuce	58.68	58.69	Low
024	Increase	RS	China Lettuce	59.96	60.00	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
024	Increase	RS	China Lettuce	63.55	63.56	Low
024	Increase	RS	China Lettuce	64.01	64.06	Low
024	Increase	RS	China Lettuce	66.42	67.34	Low
024	Increase	RS	China Lettuce	67.90	68.42	Low
024	Increase	RS	China Lettuce	68.71	70.00	Low
024	Increase	RS	China Lettuce	70.30	72.13	Low
024	Increase	RS	China Lettuce	72.13	72.52	High
024	Increase	RS	China Lettuce	72.25	73.64	Low
024	Increase	RS	China Lettuce	73.88	73.89	Low
024	Increase	RS	China Lettuce	74.57	74.58	Low
024	Increase	RS	China Lettuce	74.85	79.64	Low
024	Increase	RS	China Lettuce	76.30	76.54	Low
024	Increase	RS	China Lettuce	77.05	78.15	Low
024	Increase	RS	China Lettuce	78.80	79.05	Low
024	Decrease	RS	China Lettuce	79.00	78.98	Low
024	Decrease	RS	China Lettuce	78.28	77.00	Low
024	Decrease	RS	China Lettuce	76.29	75.75	Low
024	Decrease	RS	China Lettuce	75.57	74.98	Low
024	Decrease	RS	China Lettuce	74.75	74.55	Low
024	Decrease	RS	China Lettuce	74.26	74.11	Low
024	Decrease	RS	China Lettuce	73.19	78.80	Low
024	Decrease	RS	China Lettuce	61.45	61.44	Low
024	Decrease	RS	China Lettuce	60.89	60.77	Low
024	Decrease	RS	China Lettuce	54.19	52.42	Low
024	Decrease	RS	China Lettuce	51.92	51.84	Low
024	Decrease	RS	China Lettuce	51.03	50.95	Low
024	Decrease	RS	China Lettuce	50.25	50.17	Low
024	Decrease	RS	China Lettuce	49.65	49.57	Low
024	Increase	RS	Kochia	44.50	79.64	Low
024	Decrease	RS	Kochia	79.64	71.25	Low
024	Decrease	RS	Kochia	71.25	70.94	High
024	Decrease	RS	Kochia	70.94	69.80	Low
024	Decrease	RS	Kochia	69.80	68.85	High
024	Decrease	RS	Kochia	68.85	44.46	Low
024	Increase	RS	Mullein	76.47	76.50	Low
024	Increase	RS	Mullein	77.18	77.30	Low
024	Decrease	RS	Mullein	77.25	77.17	Low
024	Increase	RS	Russian Thistle	44.50	45.45	Low
024	Increase	RS	Russian Thistle	45.45	45.97	Low
024	Increase	RS	Russian Thistle	45.97	52.50	Low
024	Increase	RS	Russian Thistle	52.50	61.12	High

Appendix C

Nuisance Weed Locations

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
024	Increase	RS	Russian Thistle	61.12	61.42	Low
024	Increase	RS	Russian Thistle	61.42	68.90	High
024	Increase	RS	Russian Thistle	68.90	70.17	Low
024	Increase	RS	Russian Thistle	70.17	70.66	High
024	Increase	RS	Russian Thistle	70.66	71.40	Low
024	Increase	RS	Russian Thistle	71.40	72.86	High
024	Increase	RS	Russian Thistle	72.86	79.64	Low
024	Decrease	RS	Russian Thistle	79.12	77.00	Low
024	Decrease	RS	Russian Thistle	76.29	69.80	Low
024	Decrease	RS	Russian Thistle	69.80	67.70	High
024	Decrease	RS	Russian Thistle	67.70	64.00	Low
024	Decrease	RS	Russian Thistle	64.00	50.55	High
024	Decrease	RS	Russian Thistle	50.55	44.46	Low
026	Increase	RS	Canada Thistle	21.38	21.45	Low
026	Increase	RS	Canada Thistle	29.59	29.78	Low
026	Increase	RS	Canada Thistle	31.16	31.70	Low
026	Increase	RS	Canada Thistle	31.68	31.71	Low
026	Increase	RS	Canada Thistle	33.90	34.00	Low
026	Increase	RS	Canada Thistle	34.49	34.52	Low
026	Increase	RS	Canada Thistle	36.45	36.47	Low
026	Increase	RS	Canada Thistle	36.75	36.78	Low
026	Increase	RS	Canada Thistle	36.98	37.00	Low
026	Increase	RS	Canada Thistle	37.57	37.82	Low
026	Increase	RS	Canada Thistle	41.14	41.15	Low
026	Increase	RS	Canada Thistle	44.33	44.34	Low
026	Increase	RS	Canada Thistle	44.82	44.99	High
026	Increase	RS	Canada Thistle	49.44	49.15	Low
026	Decrease	RS	Canada Thistle	49.24	49.05	Low
026	Decrease	RS	Canada Thistle	48.94	48.89	Low
026	Decrease	RS	Canada Thistle	47.92	47.68	Low
026	Decrease	RS	Canada Thistle	43.20	43.19	Low
026	Decrease	RS	Canada Thistle	41.98	41.58	Low
026	Decrease	RS	Canada Thistle	41.38	41.06	Low
026	Decrease	RS	Canada Thistle	40.80	40.74	Low
026	Decrease	RS	Canada Thistle	37.79	37.75	Low
026	Decrease	RS	Canada Thistle	37.61	37.58	Low
026	Decrease	RS	Canada Thistle	37.40	37.27	Low
026	Decrease	RS	Canada Thistle	34.50	34.47	Low
026	Decrease	RS	Canada Thistle	32.42	32.41	Low
026	Decrease	RS	Canada Thistle	29.77	29.74	Low
026	Decrease	RS	Canada Thistle	29.55	29.53	Low
026	Decrease	RS	Canada Thistle	24.21	24.12	Low
026	Decrease	RS	Canada Thistle	22.54	22.53	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
026	Decrease	RS	Canada Thistle	21.93	21.92	Low
026	Decrease	RS	Canada Thistle	21.40	21.36	Low
026	Decrease	RS	Canada Thistle	19.91	19.78	Low
026	Decrease	RS	Canada Thistle	1.58	1.57	Low
026	Decrease	RS	Canada Thistle	0.83	0.82	Low

026	Increase	RS	China Lettuce	5.27	5.91	Low
026	Increase	RS	China Lettuce	11.00	12.54	Low
026	Increase	RS	China Lettuce	14.12	15.09	Low
026	Increase	RS	China Lettuce	15.48	16.80	Low
026	Increase	RS	China Lettuce	20.39	20.52	Low
026	Increase	RS	China Lettuce	21.12	21.26	Low
026	Increase	RS	China Lettuce	21.69	21.90	Low
026	Increase	RS	China Lettuce	22.31	23.65	Low
026	Increase	RS	China Lettuce	22.80	23.00	Low
026	Increase	RS	China Lettuce	24.07	24.56	Low
026	Increase	RS	China Lettuce	26.54	30.00	Low
026	Increase	RS	China Lettuce	30.95	31.05	Low
026	Increase	RS	China Lettuce	32.50	32.52	Low
026	Increase	RS	China Lettuce	33.35	33.85	Low
026	Increase	RS	China Lettuce	34.04	40.00	Low
026	Increase	RS	China Lettuce	41.00	48.00	Low
026	Increase	RS	China Lettuce	49.44	49.85	Low
026	Increase	RS	China Lettuce	51.10	55.50	Low
026	Increase	RS	China Lettuce	57.80	57.81	Low
026	Increase	RS	China Lettuce	58.95	59.05	Low
026	Increase	RS	China Lettuce	60.19	60.23	Low
026	Increase	RS	China Lettuce	60.71	61.60	Low

026	Decrease	RS	China Lettuce	59.20	58.93	Low
026	Decrease	RS	China Lettuce	58.28	57.12	Low
026	Decrease	RS	China Lettuce	56.49	56.47	Low
026	Decrease	RS	China Lettuce	56.12	56.04	Low
026	Decrease	RS	China Lettuce	55.83	55.65	Low
026	Decrease	RS	China Lettuce	54.65	52.75	Low
026	Decrease	RS	China Lettuce	51.09	51.04	Low
026	Decrease	RS	China Lettuce	49.67	49.57	Low
026	Decrease	RS	China Lettuce	48.96	48.06	Low
026	Decrease	RS	China Lettuce	47.40	47.19	Low
026	Decrease	RS	China Lettuce	46.98	46.56	Low
026	Decrease	RS	China Lettuce	44.93	42.00	Low
026	Decrease	RS	China Lettuce	42.00	41.64	Low
026	Decrease	RS	China Lettuce	40.70	40.69	Low
026	Decrease	RS	China Lettuce	39.04	38.19	Low
026	Decrease	RS	China Lettuce	37.87	35.97	Low
026	Decrease	RS	China Lettuce	35.84	35.26	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
026	Decrease	RS	China Lettuce	34.85	34.80	Low
026	Decrease	RS	China Lettuce	34.59	34.58	Low
026	Decrease	RS	China Lettuce	34.03	33.99	Low
026	Decrease	RS	China Lettuce	33.72	33.70	Low
026	Decrease	RS	China Lettuce	33.46	33.33	Low
026	Decrease	RS	China Lettuce	33.05	32.78	Low
026	Decrease	RS	China Lettuce	31.79	31.75	Low
026	Decrease	RS	China Lettuce	31.62	31.52	Low
026	Decrease	RS	China Lettuce	31.24	30.88	Low
026	Decrease	RS	China Lettuce	30.28	30.12	Low
026	Decrease	RS	China Lettuce	29.74	29.61	Low
026	Decrease	RS	China Lettuce	29.53	29.13	Low
026	Decrease	RS	China Lettuce	28.78	28.77	Low
026	Decrease	RS	China Lettuce	26.38	26.22	Low
026	Decrease	RS	China Lettuce	24.21	24.12	Low
026	Decrease	RS	China Lettuce	23.55	23.20	Low
026	Decrease	RS	China Lettuce	21.73	21.61	Low
026	Decrease	RS	China Lettuce	21.19	21.18	Low
026	Decrease	RS	China Lettuce	20.74	20.34	Low
026	Decrease	RS	China Lettuce	18.50	17.45	Low
026	Decrease	RS	China Lettuce	16.74	16.54	Low
026	Decrease	RS	China Lettuce	16.00	14.43	Low
026	Decrease	RS	China Lettuce	12.35	10.98	Low
026	Decrease	RS	China Lettuce	9.00	6.60	Low
026	Decrease	RS	China Lettuce	5.28	5.18	Low
026	Increase	RS	Kochia	0.00	61.00	Low
026	Decrease	RS	Kochia	60.91	42.00	Low
026	Decrease	RS	Kochia	42.00	32.42	Low
026	Decrease	RS	Kochia	31.95	31.40	Low
026	Decrease	RS	Kochia	1.24	0.82	Low
026	Increase	RS	Mullein	21.21	21.26	Low
026	Increase	RS	Mullein	21.43	21.45	Low
026	Increase	RS	Mullein	26.78	26.89	Low
026	Increase	RS	Mullein	34.04	34.05	Low
026	Increase	RS	Mullein	34.40	34.43	Low
026	Decrease	RS	Mullein	42.80	42.78	Low
026	Decrease	RS	Mullein	37.35	37.34	Low
026	Decrease	RS	Mullein	33.15	33.10	Low
026	Decrease	RS	Mullein	24.21	24.12	Low
026	Decrease	RS	Mullein	21.06	21.04	Low
026	Decrease	RS	Mullein	20.26	20.34	Low
026	Decrease	RS	Mullein	1.60	1.59	Low

Appendix C

Nuisance Weed Locations

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
026	Increase	RS	Russian Thistle	0.00	61.00	Low
026	Decrease	RS	Russian Thistle	61.91	42.00	Low
026	Decrease	RS	Russian Thistle	42.00	32.42	Low
026	Decrease	RS	Russian Thistle	31.95	31.40	Low
026	Decrease	RS	Russian Thistle	25.00	18.50	High
026	Decrease	RS	Russian Thistle	18.50	10.00	Low
026	Decrease	RS	Russian Thistle	1.24	0.82	Low
028	Increase	RS	Bull Thistle	65.70	65.71	Low
028	Decrease	RS	Bull Thistle	68.27	68.26	Low
028	Increase	RS	Canada Thistle	26.74	26.75	Low
028	Increase	RS	Canada Thistle	38.61	38.70	Low
028	Increase	RS	Canada Thistle	39.30	39.33	Low
028	Increase	RS	Canada Thistle	40.60	40.70	Low
028	Increase	RS	Canada Thistle	41.03	41.07	Low
028	Increase	RS	Canada Thistle	44.61	44.80	Low
028	Increase	RS	Canada Thistle	53.43	53.52	Low
028	Increase	RS	Canada Thistle	59.82	59.83	Low
028	Increase	RS	Canada Thistle	63.30	63.33	Low
028	Decrease	RS	Canada Thistle	75.55	75.54	Low
028	Decrease	RS	Canada Thistle	68.84	68.64	Low
028	Decrease	RS	Canada Thistle	68.43	68.40	Low
028	Decrease	RS	Canada Thistle	65.87	65.72	Low
028	Decrease	RS	Canada Thistle	63.36	63.26	Low
028	Decrease	RS	Canada Thistle	62.48	62.22	Low
028	Decrease	RS	Canada Thistle	54.99	54.75	Low
028	Decrease	RS	Canada Thistle	51.68	51.47	Low
028	Decrease	RS	Canada Thistle	50.75	50.57	Low
028	Decrease	RS	Canada Thistle	50.44	50.43	Low
028	Decrease	RS	Canada Thistle	45.32	44.95	Low
028	Decrease	RS	Canada Thistle	41.08	41.07	Low
028	Decrease	RS	Canada Thistle	40.67	40.44	Low
028	Decrease	RS	Canada Thistle	39.72	39.54	Low
028	Decrease	RS	Canada Thistle	39.54	39.27	Low
028	Decrease	RS	Canada Thistle	37.45	37.20	Low
028	Decrease	RS	Canada Thistle	36.07	36.05	Low
028	Decrease	RS	Canada Thistle	33.29	32.77	Low
028	Decrease	RS	Canada Thistle	32.47	32.46	Low
028	Decrease	RS	Canada Thistle	32.16	32.09	Low
028	Decrease	RS	Canada Thistle	31.30	31.21	Low
028	Decrease	RS	Canada Thistle	31.00	30.78	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
028	Decrease	RS	Canada Thistle	24.31	24.22	Low
028	Increase	RS	China Lettuce	22.35	22.65	Low
028	Increase	RS	China Lettuce	24.10	24.80	Low
028	Increase	RS	China Lettuce	25.33	25.54	Low
028	Increase	RS	China Lettuce	26.84	27.00	Low
028	Increase	RS	China Lettuce	34.60	34.79	Low
028	Increase	RS	China Lettuce	38.61	38.84	Low
028	Increase	RS	China Lettuce	39.27	40.27	Low
028	Increase	RS	China Lettuce	40.56	40.74	Low
028	Increase	RS	China Lettuce	42.17	44.63	Low
028	Increase	RS	China Lettuce	49.33	43.40	Low
028	Increase	RS	China Lettuce	52.82	52.88	Low
028	Increase	RS	China Lettuce	53.84	55.64	Low
028	Increase	RS	China Lettuce	57.23	57.98	Low
028	Increase	RS	China Lettuce	58.13	59.06	Low
028	Increase	RS	China Lettuce	59.68	60.65	Low
028	Increase	RS	China Lettuce	62.90	63.08	Low
028	Increase	RS	China Lettuce	63.40	63.57	Low
028	Increase	RS	China Lettuce	64.57	64.58	Low
028	Increase	RS	China Lettuce	66.84	67.00	Low
028	Increase	RS	China Lettuce	67.85	67.97	Low
028	Increase	RS	China Lettuce	68.65	68.90	Low
028	Increase	RS	China Lettuce	69.17	69.75	Low
028	Increase	RS	China Lettuce	70.55	70.56	Low
028	Increase	RS	China Lettuce	71.43	71.44	Low
028	Increase	RS	China Lettuce	71.95	72.20	Low
028	Increase	RS	China Lettuce	72.43	72.49	Low
028	Increase	RS	China Lettuce	72.70	72.73	Low
028	Increase	RS	China Lettuce	73.64	73.65	Low
028	Increase	RS	China Lettuce	73.88	74.16	Low
028	Increase	RS	China Lettuce	74.85	75.17	Low
028	Increase	RS	China Lettuce	76.00	76.83	Low
028	Increase	RS	China Lettuce	77.03	77.15	Low
028	Increase	RS	China Lettuce	77.50	77.56	Low
028	Increase	RS	China Lettuce	77.77	78.00	Low
028	Increase	RS	China Lettuce	78.43	78.67	Low
028	Decrease	RS	China Lettuce	78.93	78.40	Low
028	Decrease	RS	China Lettuce	77.57	77.55	Low
028	Decrease	RS	China Lettuce	75.02	75.54	Low
028	Decrease	RS	China Lettuce	74.90	74.50	Low
028	Decrease	RS	China Lettuce	71.56	69.90	Low
028	Decrease	RS	China Lettuce	69.50	68.90	Low
028	Decrease	RS	China Lettuce	65.87	65.72	Low
028	Decrease	RS	China Lettuce	64.97	64.55	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
028	Decrease	RS	China Lettuce	64.40	64.30	Low
028	Decrease	RS	China Lettuce	61.18	61.06	Low
028	Decrease	RS	China Lettuce	60.82	60.72	Low
028	Decrease	RS	China Lettuce	59.67	57.89	Low
028	Decrease	RS	China Lettuce	57.28	56.55	Low
028	Decrease	RS	China Lettuce	55.67	53.70	Low
028	Decrease	RS	China Lettuce	53.47	52.75	Low
028	Decrease	RS	China Lettuce	51.47	51.16	Low
028	Decrease	RS	China Lettuce	50.75	50.00	Low
028	Decrease	RS	China Lettuce	44.53	44.50	Low
028	Decrease	RS	China Lettuce	41.28	41.20	Low
028	Decrease	RS	China Lettuce	39.54	39.27	Low
028	Decrease	RS	China Lettuce	37.20	37.15	Low
028	Decrease	RS	China Lettuce	35.96	35.95	Low
028	Decrease	RS	China Lettuce	33.21	32.09	Low
028	Decrease	RS	China Lettuce	27.79	27.97	Low
028	Decrease	RS	China Lettuce	26.81	26.80	Low
028	Decrease	RS	China Lettuce	26.07	25.85	Low
028	Decrease	RS	China Lettuce	24.75	24.59	Low
028	Decrease	RS	China Lettuce	24.31	24.22	Low
028	Decrease	RS	China Lettuce	22.57	22.56	Low

028	Increase	RS	Kochia	22.00	29.00	Low
028	Increase	RS	Kochia	30.65	46.17	Low
028	Increase	RS	Kochia	48.34	53.00	Low
028	Increase	RS	Kochia	53.00	58.13	Low
028	Increase	RS	Kochia	58.44	74.25	Low
028	Increase	RS	Kochia	74.66	75.71	Low
028	Increase	RS	Kochia	76.04	78.00	Low
028	Increase	RS	Kochia	78.43	79.00	Low

028	Decrease	RS	Kochia	79.00	74.50	Low
028	Decrease	RS	Kochia	74.06	52.17	Low
028	Decrease	RS	Kochia	51.91	51.16	Low
028	Decrease	RS	Kochia	50.93	48.29	Low
028	Decrease	RS	Kochia	46.90	32.77	Low
028	Decrease	RS	Kochia	32.30	30.65	Low
028	Decrease	RS	Kochia	29.23	29.00	Low
028	Decrease	RS	Kochia	28.80	22.38	Low

028	Increase	RS	Mullein	24.57	24.59	Low
028	Increase	RS	Mullein	40.56	40.74	Low
028	Increase	RS	Mullein	41.23	41.24	Low
028	Increase	RS	Mullein	53.79	53.84	Low
028	Increase	RS	Mullein	55.45	55.64	Low
028	Increase	RS	Mullein	58.12	58.13	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
028	Increase	RS	Mullein	58.58	59.01	Low
028	Increase	RS	Mullein	59.68	59.98	Low
028	Increase	RS	Mullein	60.12	60.15	Low
028	Increase	RS	Mullein	60.39	60.65	Low
028	Increase	RS	Mullein	61.01	61.02	Low
028	Increase	RS	Mullein	65.81	65.82	Low
028	Increase	RS	Mullein	66.14	66.15	Low
028	Increase	RS	Mullein	70.16	70.22	Low
028	Increase	RS	Mullein	75.05	75.71	Low
028	Increase	RS	Mullein	75.45	75.46	Low
028	Increase	RS	Mullein	76.07	76.08	Low
028	Increase	RS	Mullein	77.90	77.98	Low

028	Decrease	RS	Mullein	78.13	78.12	Low
028	Decrease	RS	Mullein	77.98	77.94	Low
028	Decrease	RS	Mullein	77.38	76.78	Low
028	Decrease	RS	Mullein	76.41	76.40	Low
028	Decrease	RS	Mullein	76.06	76.05	Low
028	Decrease	RS	Mullein	75.26	75.25	Low
028	Decrease	RS	Mullein	74.69	74.68	Low
028	Decrease	RS	Mullein	69.89	69.80	Low
028	Decrease	RS	Mullein	68.84	68.83	Low
028	Decrease	RS	Mullein	68.37	68.21	Low
028	Decrease	RS	Mullein	65.87	65.72	Low
028	Decrease	RS	Mullein	61.18	61.17	Low
028	Decrease	RS	Mullein	60.15	60.13	Low
028	Decrease	RS	Mullein	58.97	58.55	Low
028	Decrease	RS	Mullein	55.67	55.54	Low
028	Decrease	RS	Mullein	54.20	54.19	Low
028	Decrease	RS	Mullein	41.12	41.11	Low
028	Decrease	RS	Mullein	40.71	40.44	Low

028	Increase	RS	Russian Thistle	22.00	29.00	Low
028	Increase	RS	Russian Thistle	30.65	46.17	Low
028	Increase	RS	Russian Thistle	48.34	53.00	Low
028	Increase	RS	Russian Thistle	53.00	58.13	Low
028	Increase	RS	Russian Thistle	58.44	74.25	Low
028	Increase	RS	Russian Thistle	74.66	75.71	Low
028	Increase	RS	Russian Thistle	75.90	78.00	Low
028	Increase	RS	Russian Thistle	78.43	79.00	Low

028	Decrease	RS	Russian Thistle	79.00	74.50	Low
028	Decrease	RS	Russian Thistle	74.06	52.17	Low
028	Decrease	RS	Russian Thistle	51.91	51.16	Low
028	Decrease	RS	Russian Thistle	50.93	48.29	Low
028	Decrease	RS	Russian Thistle	46.90	32.77	Low

Appendix C

Nuisance Weed Locations

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
028	Decrease	RS	Russian Thistle	32.30	30.65	Low
028	Decrease	RS	Russian Thistle	29.23	29.00	Low
028	Decrease	RS	Russian Thistle	28.80	22.38	Low
090	Increase	RS	Canada Thistle	142.80	142.81	Low
090	Decrease	RS	Canada Thistle	190.80	190.97	Low
090	Decrease	RS	Canada Thistle	190.40	190.56	Low
090	Decrease	RS	Canada Thistle	190.26	190.20	Low
090	Decrease	RS	Canada Thistle	190.18	190.20	Low
090	Decrease	RS	Canada Thistle	188.95	188.80	High
090	Decrease	RS	Canada Thistle	187.83	187.93	Low
090	Decrease	RS	Canada Thistle	187.48	187.49	Low
090	Decrease	RS	Canada Thistle	176.62	176.59	Low
090	Decrease	RS	Canada Thistle	151.28	151.05	Low
090	Increase	RS	China Lettuce	140.37	140.55	Low
090	Increase	RS	China Lettuce	140.76	140.77	Low
090	Increase	RS	China Lettuce	141.15	141.16	Low
090	Increase	RS	China Lettuce	141.60	141.62	Low
090	Increase	RS	China Lettuce	142.02	142.03	Low
090	Increase	RS	China Lettuce	142.72	142.89	Low
090	Increase	LS	China Lettuce	142.92	143.42	Low
090	Increase	RS	China Lettuce	143.16	143.31	Low
090	Increase	RS	China Lettuce	148.50	148.90	Low
090	Increase	RS	China Lettuce	149.65	149.18	Low
090	Increase	RS	China Lettuce	173.51	173.52	Low
090	Increase	RS	China Lettuce	175.89	175.90	Low
090	Increase	RS	China Lettuce	176.43	176.52	Low
090	Decrease	RS	China Lettuce	191.00	191.45	Low
090	Decrease	RS	China Lettuce	190.89	190.69	Low
090	Decrease	RS	China Lettuce	187.85	189.35	Low
090	Decrease	RS	China Lettuce	187.48	188.23	Low
090	Decrease	RS	China Lettuce	185.95	188.69	Low
090	Decrease	RS	China Lettuce	184.94	184.76	Low
090	Decrease	RS	China Lettuce	183.27	185.00	Low
090	Decrease	RS	China Lettuce	182.90	182.76	Low
090	Decrease	RS	China Lettuce	180.43	180.42	Low
090	Decrease	RS	China Lettuce	178.78	178.40	Low
090	Decrease	RS	China Lettuce	176.62	176.37	Low
090	Decrease	RS	China Lettuce	165.33	165.30	Low
090	Decrease	RS	China Lettuce	161.64	191.32	Low
090	Decrease	RS	China Lettuce	151.22	151.20	Low
090	Decrease	RS	China Lettuce	150.99	150.80	Low
090	Decrease	RS	China Lettuce	150.64	149.94	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
090	Decrease	RS	China Lettuce	149.83	149.68	Low
090	Decrease	RS	China Lettuce	149.55	149.15	Low
090	Decrease	RS	China Lettuce	148.75	148.40	Low
090	Decrease	RS	China Lettuce	148.08	148.07	Low
090	Decrease	RS	China Lettuce	147.72	147.65	Low
090	Decrease	RS	China Lettuce	143.00	142.88	Low
090	Decrease	RS	China Lettuce	140.20	140.08	Low
090	Decrease	RS	China Lettuce	139.77	139.76	Low
090	Increase	RS	Kochia	137.67	138.65	Low
090	Increase	LS	Kochia	139.24	164.59	Low
090	Increase	RS	Kochia	139.25	139.35	Low
090	Increase	RS	Kochia	144.04	144.05	Low
090	Increase	RS	Kochia	144.97	145.03	Low
090	Increase	RS	Kochia	148.63	148.64	Low
090	Increase	RS	Kochia	148.90	150.00	Low
090	Increase	RS	Kochia	150.00	152.00	Low
090	Increase	RS	Kochia	152.30	164.59	Low
090	Increase	RS	Kochia	164.59	180.00	Low
090	Increase	LS	Kochia	170.00	174.55	Low
090	Increase	LS	Kochia	179.71	183.00	Low
090	Increase	LS	Kochia	184.00	190.11	Low
090	Increase	LS	Kochia	190.71	191.89	Low
090	Decrease	RS	Kochia	191.88	185.00	Low
090	Decrease	RS	Kochia	189.00	190.00	High
090	Decrease	RS	Kochia	184.30	191.87	Low
090	Decrease	RS	Kochia	184.00	184.30	High
090	Decrease	RS	Kochia	183.58	182.70	Low
090	Decrease	RS	Kochia	182.90	182.76	High
090	Decrease	RS	Kochia	182.76	182.50	Low
090	Decrease	RS	Kochia	180.86	177.33	Low
090	Decrease	RS	Kochia	180.00	184.00	Low
090	Decrease	RS	Kochia	176.62	164.59	Low
090	Decrease	RS	Kochia	164.59	154.03	Low
090	Decrease	RS	Kochia	151.80	143.57	Low
090	Decrease	RS	Kochia	141.25	139.45	Low
090	Decrease	RS	Kochia	138.10	137.67	Low
090	Increase	RS	Mullein	177.80	177.81	Low
090	Increase	RS	Mullein	178.54	178.55	Low
090	Decrease	RS	Mullein	183.29	183.97	Low
090	Decrease	RS	Mullein	180.75	180.72	Low
090	Decrease	RS	Mullein	149.55	149.00	Low
090	Decrease	RS	Mullein	144.15	144.05	Low

Appendix C

Nuisance Weed Locations

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
090	Increase	RS	Russian Thistle	137.67	150.00	Low
090	Increase	LS	Russian Thistle	139.24	164.59	Low
090	Increase	RS	Russian Thistle	150.00	152.00	Low
090	Increase	RS	Russian Thistle	152.33	164.59	Low
090	Increase	RS	Russian Thistle	164.59	180.00	Low
090	Increase	LS	Russian Thistle	170.00	174.55	Low
090	Increase	LS	Russian Thistle	179.71	183.00	Low
090	Increase	LS	Russian Thistle	184.00	190.11	Low
090	Increase	LS	Russian Thistle	190.71	191.89	Low
090	Decrease	RS	Russian Thistle	191.88	185.00	Low
090	Decrease	RS	Russian Thistle	183.58	182.76	Low
090	Decrease	RS	Russian Thistle	182.76	181.45	High
090	Decrease	RS	Russian Thistle	181.45	181.15	Low
090	Decrease	RS	Russian Thistle	180.86	180.30	Low
090	Decrease	RS	Russian Thistle	180.30	179.79	High
090	Decrease	RS	Russian Thistle	180.00	191.87	Low
090	Decrease	RS	Russian Thistle	179.79	177.33	Low
090	Decrease	RS	Russian Thistle	176.62	164.59	Low
090	Decrease	RS	Russian Thistle	164.59	154.03	Low
090	Decrease	RS	Russian Thistle	152.83	152.17	Low
090	Decrease	RS	Russian Thistle	152.04	137.67	Low
170	Increase	RS	Canada Thistle	1.00	1.57	Low
170	Increase	RS	China Lettuce	0.92	1.05	Low
170	Increase	RS	China Lettuce	1.36	1.57	Low
170	Increase	RS	Kochia	0.00	1.91	Low
170	Increase	RS	Kochia	1.91	2.36	High
170	Increase	RS	Kochia	2.36	2.56	Low
170	Decrease	RS	Kochia	2.56	2.10	High
170	Decrease	RS	Kochia	2.10	0.00	Low
170	Increase	RS	Mullein	0.30	0.31	Low
170	Increase	RS	Russian Thistle	0.00	2.56	Low
170	Decrease	RS	Russian Thistle	2.56	0.00	Low
243	Increase	RS	Canada Thistle	13.57	13.60	Low
243	Increase	RS	Canada Thistle	18.35	18.40	Low
243	Decrease	RS	Canada Thistle	0.06	0.05	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
243	Increase	RS	China Lettuce	5.73	5.74	Low
243	Increase	RS	China Lettuce	13.35	13.78	Low
243	Increase	RS	China Lettuce	14.08	14.44	Low
243	Increase	RS	China Lettuce	15.88	15.89	Low
243	Increase	RS	China Lettuce	16.25	16.66	Low
243	Increase	RS	China Lettuce	21.05	21.26	Low
243	Increase	RS	China Lettuce	28.19	28.26	Low
243	Decrease	RS	China Lettuce	23.89	23.88	Low
243	Decrease	RS	China Lettuce	19.68	19.67	Low
243	Decrease	RS	China Lettuce	18.60	18.55	Low
243	Decrease	RS	China Lettuce	17.69	17.45	Low
243	Decrease	RS	China Lettuce	17.10	17.09	Low
243	Decrease	RS	China Lettuce	16.70	16.10	Low
243	Decrease	RS	China Lettuce	15.39	15.28	Low
243	Decrease	RS	China Lettuce	13.78	13.77	Low
243	Decrease	RS	China Lettuce	11.55	10.95	Low
243	Decrease	RS	China Lettuce	9.02	8.74	Low
243	Decrease	RS	China Lettuce	6.95	6.94	Low
243	Decrease	RS	China Lettuce	6.20	6.02	Low
243	Increase	RS	Kochia	0.00	28.26	Low
243	Decrease	RS	Kochia	28.26	0.00	Low
243	Increase	RS	Mullein	8.16	8.17	Low
243	Increase	RS	Mullein	8.73	8.84	Low
243	Increase	RS	Mullein	15.15	15.16	Low
243	Increase	RS	Mullein	28.21	28.26	Low
243	Decrease	RS	Mullein	27.94	27.92	Low
243	Decrease	RS	Mullein	18.60	18.55	Low
243	Decrease	RS	Mullein	18.23	17.69	Low
243	Increase	RS	Russian Thistle	0.00	28.26	Low
243	Decrease	RS	Russian Thistle	28.26	0.00	Low
262	Increase	RS	Canada Thistle	1.14	1.15	Low
262	Increase	RS	Canada Thistle	3.79	3.95	Low
262	Increase	RS	Canada Thistle	23.18	23.19	Low
262	Increase	RS	Canada Thistle	23.60	23.61	Low
262	Increase	RS	Canada Thistle	23.94	23.98	Low
262	Decrease	RS	Canada Thistle	24.03	23.93	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
262	Decrease	RS	Canada Thistle	22.80	22.73	Low
262	Decrease	RS	Canada Thistle	10.90	10.89	Low
262	Decrease	RS	Canada Thistle	10.15	10.14	Low
262	Decrease	RS	Canada Thistle	5.51	5.50	Low
262	Increase	RS	China Lettuce	1.60	1.90	Low
262	Increase	RS	China Lettuce	5.00	6.24	Low
262	Increase	RS	China Lettuce	17.93	19.80	Low
262	Increase	RS	China Lettuce	22.10	22.13	Low
262	Increase	RS	China Lettuce	22.43	22.73	Low
262	Increase	RS	China Lettuce	23.93	24.22	Low
262	Decrease	RS	China Lettuce	24.07	23.85	Low
262	Decrease	RS	China Lettuce	23.59	23.46	Low
262	Decrease	RS	China Lettuce	22.70	22.35	Low
262	Decrease	RS	China Lettuce	18.97	18.55	Low
262	Decrease	RS	China Lettuce	1.40	1.39	Low
262	Increase	RS	Kochia	0.00	24.22	Low
262	Decrease	RS	Kochia	24.22	2.36	Low
262	Decrease	RS	Kochia	2.09	2.02	Low
262	Decrease	RS	Kochia	1.81	0.00	Low
262	Increase	RS	Mullein	5.10	5.11	Low
262	Increase	RS	Mullein	13.21	13.22	Low
262	Increase	RS	Mullein	18.37	18.48	Low
262	Increase	RS	Mullein	19.27	19.28	Low
262	Decrease	RS	Mullein	18.37	18.25	Low
262	Decrease	RS	Mullein	14.83	14.82	Low
262	Decrease	RS	Mullein	10.90	10.89	Low
262	Decrease	RS	Mullein	6.23	6.22	Low
262	Decrease	RS	Mullein	1.46	1.45	Low
262	Increase	RS	Russian Thistle	0.00	24.22	Low
262	Decrease	RS	Russian Thistle	24.22	2.36	Low
262	Decrease	RS	Russian Thistle	2.09	2.02	Low
262	Decrease	RS	Russian Thistle	1.81	0.00	Low
281	Increase	RS	Canada Thistle	1.00	1.04	Low
281	Increase	RS	Canada Thistle	6.25	6.53	Low
281	Decrease	RS	Canada Thistle	9.72	9.59	Low
281	Decrease	RS	Canada Thistle	9.38	9.07	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
281	Increase	RS	China Lettuce	0.79	0.80	Low
281	Increase	RS	China Lettuce	1.71	1.72	Low
281	Increase	RS	China Lettuce	2.75	3.01	Low
281	Increase	RS	China Lettuce	3.40	3.41	Low
281	Increase	RS	China Lettuce	4.63	4.72	Low
281	Increase	RS	China Lettuce	6.09	6.76	Low
281	Increase	RS	China Lettuce	9.04	9.07	Low
281	Decrease	RS	China Lettuce	9.72	9.59	Low
281	Decrease	RS	China Lettuce	9.38	9.07	Low
281	Decrease	RS	China Lettuce	7.05	7.00	Low
281	Decrease	RS	China Lettuce	2.77	2.50	Low
281	Decrease	RS	China Lettuce	0.98	0.90	Low
281	Decrease	RS	China Lettuce	0.34	0.32	Low
281	Increase	RS	Kochia	0.00	6.77	Low
281	Increase	RS	Kochia	8.30	10.00	Low
281	Decrease	RS	Kochia	10.00	0.00	Low
281	Decrease	RS	Kochia	7.18	7.08	High
281	Increase	RS	Mullein	1.00	1.04	Low
281	Increase	RS	Mullein	3.01	3.02	Low
281	Increase	RS	Mullein	3.70	3.71	Low
281	Decrease	RS	Mullein	3.88	3.78	Low
281	Decrease	RS	Mullein	2.77	2.75	Low
281	Decrease	RS	Mullein	0.94	0.93	Low
281	Increase	RS	Russian Thistle	0.00	10.00	Low
281	Decrease	RS	Russian Thistle	10.00	0.00	Low
281 SPUR	Decrease	RS	China Lettuce	3.73	3.51	Low
281 SPUR	Decrease	RS	China Lettuce	3.38	3.37	Low
281 SPUR	Decrease	RS	China Lettuce	3.20	3.06	Low
281 SPUR	Decrease	RS	China Lettuce	2.87	2.86	Low
281 SPUR	Increase	RS	Kochia	2.78	4.34	Low
281 SPUR	Decrease	RS	Kochia	4.34	2.78	Low
281 SPUR	Increase	RS	Mullein	3.00	3.01	Low
281 SPUR	Decrease	RS	Mullein	3.24	3.10	Low

Appendix C

Nuisance Weed Locations

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
281 SPUR	Increase	RS	Russian Thistle	2.78	4.34	Low
281 SPUR	Decrease	RS	Russian Thistle	4.34	2.78	Low
282	Increase	RS	China Lettuce	0.96	1.70	Low
282	Increase	RS	China Lettuce	2.00	2.12	Low
282	Increase	RS	China Lettuce	2.68	2.76	Low
282	Increase	RS	China Lettuce	3.04	4.80	Low
282	Decrease	RS	China Lettuce	4.85	0.84	Low
282	Increase	RS	Kochia	0.00	0.10	Low
282	Increase	RS	Kochia	0.10	0.25	High
282	Increase	RS	Kochia	0.25	0.54	Low
282	Increase	RS	Kochia	0.71	0.97	Low
282	Increase	RS	Kochia	1.60	4.92	Low
282	Decrease	RS	Kochia	4.92	0.00	Low
282	Increase	RS	Russian Thistle	0.00	4.72	Low
282	Decrease	RS	Russian Thistle	4.92	0.00	Low
283	Increase	RS	China Lettuce	0.63	0.64	Low
283	Increase	RS	China Lettuce	1.38	1.39	Low
283	Increase	RS	China Lettuce	2.03	2.30	Low
283	Increase	RS	China Lettuce	3.66	3.80	Low
283	Increase	RS	China Lettuce	4.30	4.52	Low
283	Increase	RS	China Lettuce	5.10	5.45	Low
283	Increase	RS	China Lettuce	7.30	7.32	Low
283	Increase	RS	China Lettuce	9.73	9.82	Low
283	Increase	RS	China Lettuce	9.93	10.09	Low
283	Increase	RS	China Lettuce	10.26	10.27	Low
283	Increase	RS	China Lettuce	12.79	14.36	Low
283	Decrease	RS	China Lettuce	14.59	14.58	Low
283	Decrease	RS	China Lettuce	14.16	13.75	Low
283	Decrease	RS	China Lettuce	13.37	13.34	Low
283	Decrease	RS	China Lettuce	12.91	13.75	Low
283	Decrease	RS	China Lettuce	10.09	9.71	Low
283	Decrease	RS	China Lettuce	5.11	4.43	Low
283	Decrease	RS	China Lettuce	3.85	3.65	Low
283	Decrease	RS	China Lettuce	3.15	8.85	Low
283	Decrease	RS	China Lettuce	2.45	2.18	Low
283	Decrease	RS	China Lettuce	1.45	1.42	Low
283	Decrease	RS	China Lettuce	0.95	0.65	Low

Table 2.3.4

Level of Infestation - minor infestation, few individual plants (Low), major infestation, many plants (High)

SR	Direction	Shoulder	Weed Species	BEG MP	END MP	Level of Infestation
283	Increase	RS	Kochia	0.00	6.30	Low
283	Increase	RS	Kochia	6.30	6.40	High
283	Increase	RS	Kochia	6.40	14.86	Low
283	Decrease	RS	Kochia	14.86	0.00	Low
283	Increase	RS	Mullein	0.84	0.85	Low
283	Increase	RS	Mullein	2.29	2.30	Low
283	Increase	RS	Mullein	4.00	4.09	Low
283	Increase	RS	Mullein	6.59	6.66	Low
283	Increase	RS	Mullein	9.23	9.24	Low
283	Increase	RS	Mullein	10.23	10.26	Low
283	Increase	RS	Mullein	10.61	10.84	Low
283	Increase	RS	Mullein	11.03	11.04	Low
283	Increase	RS	Mullein	11.45	11.78	Low
283	Increase	RS	Mullein	12.79	12.80	Low
283	Decrease	RS	Mullein	11.49	11.46	Low
283	Decrease	RS	Mullein	11.17	10.98	Low
283	Decrease	RS	Mullein	9.71	9.62	Low
283	Decrease	RS	Mullein	5.11	5.00	Low
283	Increase	RS	Russian Thistle	0.00	14.86	Low
283	Decrease	RS	Russian Thistle	14.86	0.00	Low
283	Increase	RS	Sandbur	1.69	1.72	Low

Appendix D

Special Maintenance Area

Table 3.0

Definitions: Locations area distinguished between opposing sides of the highway by right shoulder (RS) and median shoulder (LS) in relation to direction of travel, indicated by increasing (INC) or decreasing (DEC) mile markers.

Description: Brief explanation of special treatment required

SR	Direction	Shoulder	Beg MP	End MP	Type	Description
002	Both	RS	188.62	189.19	US Bureau of Reclamation	
002	Both	RS	191.26	191.58	US Bureau of Reclamation	
017	INC	RS	27.98	28.79	I/C toward Yakima	Mow out quadrants
017	DEC	RS	28.77	27.88	I/C toward Yakima	Mow out quadrants
017	DEC	RS	75.45	75.26	Ramps toward Ephrata	Mow out quadrant
017	Both	RS	50.35	55.32	City of Moses lake	Maintain by City
017	Both	RS	55.90	56.55	City of Moses lake	Maintain by City
017	Both	RS	59.02	59.19	Rocky Ford Creek	
017	Both	RS	75.44	76.45	City of Soap lake	Maintain by City
017	Both	RS	81.16	81.65	Sun Lakes-Dry Falls State Park	
017	Both	RS	82.94	84.43	Sun Lakes Wildlife Area	
017	Both	RS	84.76	85.77	Sun Lakes State Park	
017	Both	RS	87.94	89.61	US Fish and Wildlife Services	
017	Both	RS	90.77	92.27	US Fish and Wildlife Services	
017	Both	RS	91.93	92.07	Sun Lakes-Dry Falls State Park	
017	Both	RS	92.27	94.81	Sun Lakes State Park	
017	Both	RS	95.99	96.56	US Bureau of Reclamation	
024	Both	RS	43.77	53.23	Saddle Mt. Nat. Wildlife Refuge	
024	Both	RS	53.30	65.81	US Bureau of Land Management	
024	Both	RS	65.81	69.09	US Bureau of Reclamation	
024	Both	RS	78.52	79.64	City of Othello	Maintain by City
026	INC	RS	55.50	56.50	Organic Farm	No Spray
026	Both	RS	40.06	41.61	City of Othello	Maintain by City
028	DEC	RS	55.30	55.07	Neighbor Maintained	
028	DEC	RS	62.03	61.96	Neighbor Maintained	
028	Both	RS	23.42	24.00	US Bureau of Reclamation	
028	Both	RS	27.87	30.63	City of Quincy	Maintain by City
028	Both	RS	43.43	43.74	US Bureau of Reclamation	
028	Both	RS	44.57	49.14	City of Ephrata	Maintain by City
028	Both	RS	52.40	52.61	City of Soap lake	Maintain by City
028	Both	RS	57.60	57.64	US Bureau of Reclamation	
028	Both	RS	77.09	77.56	US Bureau of Land Management	
090	INC	RS	137.68	138.10	Ramps towards SR 26	Mow out quadrant
090	INC	RS	143.44	144.22	I/C Silica Rd	Mow out quadrants
090	INC	RS	149.46	150.06	I/C Quincy/Wenatchee	Mow out quadrants
090	INC	RS	151.33	151.99	I/C Ephrata/Soap Lake	Mow out quadrants
090	INC	RS	154.61	154.98	Ramps towards Adams Rd	Mow out quadrant
090	INC	RS	164.51	165.00	I/C Dodson Rd	Mow out quadrants

Appendix D

Special Maintenance Area

Table 3.0

Definitions: Locations area distinguished between opposing sides of the highway by right shoulder (RS) and median shoulder (LS) in relation to direction of travel, indicated by increasing (INC) or decreasing (DEC) mile markers.

Description: Brief explanation of special treatment required

SR	Direction	Shoulder	Beg MP	End MP	Type	Description
090	INC	RS	169.36	170.10	I/C Hiawatha Rd	Mow out quadrants
090	INC	RS	175.69	176.31	I/C Moses Lake	Mow out quadrants
090	INC	RS	179.20	179.73	I/C Moses Lake Othello	Mow out quadrants
090	INC	RS	182.75	183.10	I/C Wheeler	Mow out quadrants
090	INC	RS	184.63	185.14	I/C O Rd	Mow out quadrants
090	INC	RS	188.60	189.17	I/C Warden	Mow out quadrants
090	DEC	RS	189.17	188.43	I/C Warden	Mow out quadrants
090	DEC	RS	185.14	184.69	I/C O Rd	Mow out quadrants
090	DEC	RS	183.09	182.66	I/C Wheeler	Mow out quadrants
090	DEC	RS	179.72	179.10	I/C Moses Lake Othello	Mow out quadrants
090	DEC	RS	176.29	175.72	I/C Moses Lake	Mow out quadrants
090	DEC	RS	174.81	174.29	I/C Exit 174	Mow out quadrants
090	DEC	RS	169.98	169.31	I/C Hiawatha Rd	Mow out quadrants
090	DEC	RS	164.84	164.28	I/C Dodson Rd	Mow out quadrants
090	DEC	RS	154.60	154.16	Ramps towards Adams Rd	Mow out quadrant
090	DEC	RS	151.99	151.16	I/C Quincy/Wenatchee	Mow out quadrants
090	DEC	RS	150.05	149.47	I/C Quincy/Wenatchee	Mow out quadrants
090	DEC	RS	144.22	143.42	I/C Silica Rd	Mow out quadrants
090	DEC	RS	138.20	137.76	Ramp from SR 26	Mow out quadrant
090	Both	RS	139.66	140.66	US Bureau of Reclamation	
090	Both	RS	141.76	141.84	Quincy Wildlife Area	
090	Both	RS	157.64	158.15	Desert Wildlife Area	
090	Both	RS	161.62	161.87	Winchester Wildlife Area	
090	Both	RS	168.16	168.67	Potholes Wildlife Area	

155	Both	RS	2.03	4.37	US Bureau of Reclamation	
155	Both	RS	6.21	6.43	US Bureau of Land Management	
155	Both	RS	7.85	8.04	US Bureau of Land Management	
155	Both	RS	11.31	11.87	US Bureau of Land Management	
155	Both	RS	15.40	16.16	US Bureau of Reclamation	
155	Both	RS	16.27	16.43	US Bureau of Land Management	
155	Both	RS	16.72	17.08	US Bureau of Land Management	
155	Both	RS	17.18	17.55	US Bureau of Land Management	
155	Both	RS	17.88	18.16	US Bureau of Land Management	
155	Both	RS	19.27	20.55	US Bureau of Land Management	
155	Both	RS	24.25	25.73	US Bureau of Reclamation	
155	Both	RS	26.21	28.05	National Park Service	

170	Both	RS	2.53	3.68	City of Warden	Maintain by City
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171	Both	RS	0.00	3.79	City of Moses lake	Maintain by City
174	Both	RS	19.70	20.50	National Park Service	
174	Both	RS	21.42	21.66	US Bureau of Reclamation	

Appendix D

Special Maintenance Area

Table 3.0

Definitions: Locations area distinguished between opposing sides of the highway by right shoulder (RS) and median shoulder (LS) in relation to direction of travel, indicated by increasing (INC) or decreasing (DEC) mile markers.

Description: Brief explanation of special treatment required

SR	Direction	Shoulder	Beg MP	End MP	Type	Description
243	DEC	RS	19.65	19.59	Neighbor Maintained	
243	DEC	RS	18.60	18.34	Neighbor Maintained	
243	DEC	RS	18.12	17.69	Neighbor Maintained	
243	Both	RS	0.00	3.77	Saddle Mt. Nat. Wildlife Refuge	
243	Both	RS	3.77	4.76	US Bureau of Reclamation	
243	Both	RS	5.48	5.61	US Bureau of Reclamation	
243	Both	RS	17.60	18.62	SR along Columbia River	
243	Both	RS	18.19	19.29	US Bureau of Land Management	
243	Both	RS	28.23	28.01	Neighbor Maintained	
262	DEC	RS	13.85	13.86	Neighbor Maintained	
262	Both	RS	0.00	7.00	Orchard close to SR	Use only Karmix DF
262	Both	RS	5.71	6.26	US Bureau of Reclamation	
262	Both	RS	11.92	13.92	Potholes Wildlife Area	
262	Both	RS	14.51	17.80	Potholes Wildlife Area	
262	Both	RS	18.32	19.31	Potholes Wildlife Area	
262	Both	RS	19.99	22.10	Potholes Wildlife Area	
281	Both	RS	9.77	10.55	City of Quincy	Maintain by City
282	Both	RS	0.00	0.20	City of Ephrata	Maintain by City



**Washington State
Department of Transportation**

Integrated Vegetation Management Record

Org Code 425210	County grant	Date 3/10/2005	Vegetation Management Zone(s) <input type="checkbox"/> Zone 1 <input checked="" type="checkbox"/> Zone 2 <input checked="" type="checkbox"/> Zone 3																			
Area SE 28 MP 40 to MP 39.5		Location Ephrata																				
Check Appropriate Boxes: <input checked="" type="checkbox"/> Roadside <input type="checkbox"/> Landscaped Area <input type="checkbox"/> Interchange <input type="checkbox"/> Mitigation Site <input type="checkbox"/> Third Party Damage <input type="checkbox"/> Sensitive Sites <input type="checkbox"/> NB <input type="checkbox"/> EB <input type="checkbox"/> Shoulder <input type="checkbox"/> Rest Area <input type="checkbox"/> Bridge <input type="checkbox"/> Stormwater <input type="checkbox"/> Yes <input type="checkbox"/> Aquatic <input type="checkbox"/> SB <input checked="" type="checkbox"/> WB <input type="checkbox"/> Median <input type="checkbox"/> Park-n-Ride <input type="checkbox"/> Ramp <input type="checkbox"/> Yard/Stockpile <input type="checkbox"/> Wetlands																						
Target: <input type="checkbox"/> Noxious Weeds <input type="checkbox"/> Brush/Trees <input checked="" type="checkbox"/> Other <input type="checkbox"/> Nuisance Weeds <input type="checkbox"/> Hazard Tree <div> List Target/Species: _____ reseed program </div>																						
Reason for Action:																						
<input type="checkbox"/> Noxious Weeds <input type="checkbox"/> Nuisance Weeds <input type="checkbox"/> Fire Prevention <input type="checkbox"/> Restore Native Veg. <input type="checkbox"/> Zone 1 Pilot <input type="checkbox"/> Aesthetic <input type="checkbox"/> Site Distance <input type="checkbox"/> Hazard Vegetation <input type="checkbox"/> Customer Request <input type="checkbox"/> Enhance Vegetation <input type="checkbox"/> Slope Stabilization <input checked="" type="checkbox"/> Other																						
Long term IVM plan (Describe goals/objectives and a step-by-step approach over time)																						
area was disturbed and cleared as part of a project for yellow rut sage. we Reseeded the area on 3-5-05, and applied about 2300 gals. of water to area in an attempt to replace moisture we lost during ground preparation. the goal to this is to attempt to reclaim this ground in a stand of grass and push out the rut sage. this could be a challenge. On 14 mar. 05 added 3000 gals of water to site																						
Approximate Acres to Accomplish 2																						
Activities																						
<table border="1"> <thead> <tr> <th></th> <th>Planned date of Treatment</th> <th>Actual date of Treatment</th> </tr> </thead> <tbody> <tr> <td> Manual <input type="checkbox"/> Digging <input type="checkbox"/> Pulling <input type="checkbox"/> Planting <input type="checkbox"/> Logging <input checked="" type="checkbox"/> Seeding <input type="checkbox"/> Other </td> <td></td> <td>3-5-2005</td> </tr> <tr> <td> Mechanical <input type="checkbox"/> Aerial Saw Work <input type="checkbox"/> Tractor Brush Cutter <input type="checkbox"/> Mower/Chem <input type="checkbox"/> Manual Brush Cutting <input type="checkbox"/> Tractor Mower <input type="checkbox"/> Other </td> <td></td> <td></td> </tr> <tr> <td> Bio-Control <input type="checkbox"/> Insect <input type="checkbox"/> Pathogen <input type="checkbox"/> Parasite <div>Type/Species</div> </td> <td></td> <td></td> </tr> <tr> <td> Cultural <input type="checkbox"/> Burning <input checked="" type="checkbox"/> Grading <input type="checkbox"/> Seeding <input type="checkbox"/> Fertilizing <input type="checkbox"/> Grazing <input type="checkbox"/> Soil Amendment <input checked="" type="checkbox"/> Other </td> <td></td> <td>3-5-2005</td> </tr> <tr> <td> Chemical <div></div> Record Number </td> <td></td> <td></td> </tr> </tbody> </table>						Planned date of Treatment	Actual date of Treatment	Manual <input type="checkbox"/> Digging <input type="checkbox"/> Pulling <input type="checkbox"/> Planting <input type="checkbox"/> Logging <input checked="" type="checkbox"/> Seeding <input type="checkbox"/> Other		3-5-2005	Mechanical <input type="checkbox"/> Aerial Saw Work <input type="checkbox"/> Tractor Brush Cutter <input type="checkbox"/> Mower/Chem <input type="checkbox"/> Manual Brush Cutting <input type="checkbox"/> Tractor Mower <input type="checkbox"/> Other			Bio-Control <input type="checkbox"/> Insect <input type="checkbox"/> Pathogen <input type="checkbox"/> Parasite <div>Type/Species</div>			Cultural <input type="checkbox"/> Burning <input checked="" type="checkbox"/> Grading <input type="checkbox"/> Seeding <input type="checkbox"/> Fertilizing <input type="checkbox"/> Grazing <input type="checkbox"/> Soil Amendment <input checked="" type="checkbox"/> Other		3-5-2005	Chemical <div></div> Record Number		
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Chemical <div></div> Record Number																						
#1 Evaluation and Date																						
Monitor March 2006:																						
Monitor April 2006:																						
#2 Evaluation and Date																						
#3 Evaluation and Date																						



**Washington State
Department of Transportation**

Pesticide Application

Org. Code 425210	County Grant	Date of Application 6/21/2006	Start 1200	<input type="radio"/> AM <input checked="" type="radio"/> PM	ICP 022A	Stores Issue Ticket Number(s) A030013
Area SR 171 MP 0.0 to MP 2.8 and MP 2.8 to MP 2 and MP 2.2 to MP 2.8 and MP to MP						
Check Appropriate Boxes: <input type="checkbox"/> NB <input checked="" type="checkbox"/> EB <input checked="" type="checkbox"/> Shoulder <input type="checkbox"/> Rest Area <input type="checkbox"/> Bridge <input type="checkbox"/> Yard/Stockpile <input checked="" type="checkbox"/> Spot Spray <input type="checkbox"/> Aquatic <input type="checkbox"/> SB <input checked="" type="checkbox"/> WB <input type="checkbox"/> Median <input type="checkbox"/> Park-n-Ride <input type="checkbox"/> Ramp <input type="checkbox"/> Blanket Spray <input type="checkbox"/> Wetlands <input type="checkbox"/> Banded Width						
<input checked="" type="checkbox"/> Weeds <input checked="" type="checkbox"/> Noxious Weeds <input type="checkbox"/> Disease <input type="checkbox"/> Brush <input type="checkbox"/> Insects <input type="checkbox"/> Other List Pest(s): <u>kochia/thistle</u>						
Start Weather Conditions Temperature <u>73</u> °F (°C) Wind (Direction From) <u>SW</u> Wind (Range) <u>1-2</u> mph (km/h) <input checked="" type="radio"/> Sunny <input type="radio"/> Broken <input type="radio"/> Overcast No Rain <input type="radio"/> Light Scattered Showers <input type="radio"/> Hard Showers						
Finish Weather Conditions Temperature <u>74</u> °F (°C) Wind (Direction From) <u>SW</u> Wind (Range) <u>1-2</u> mph (km/h) <input checked="" type="radio"/> Sunny <input type="radio"/> Broken <input type="radio"/> Overcast No Rain <input type="radio"/> Light Scattered Showers <input type="radio"/> Hard Showers						
Tank No.	Material Name	Material Type	EPA Reg. No.	Lot Number	Product For Acres (Describe)	Total Daily Usage Unit
1	Brox 2EC	Pesticide	42750--48	004169	32 OZl	384 OZl
1	Vista	Pesticide	62719-308	tco4169442	16 OZl	192 OZl
1	MSO	Adjuvant		88875	32 OZl	384 OZl
1	Reign	Adjuvant		87049	32 OZl	384 OZl
						0
						0
1	Water		-----		40 Gal	480 Gal
Total 12.0 Acres(hectares) Treated at 40 gallons(liters) of spray per acre(hectare).						
Equipment Number 8B29-21	Tank Size 1 1400 3 5	Calibration Date 6/21/06	Vehicle Speed 8 mph (km/h)	Nozzle Pressure 17 PSI (MPa)	Width of Spray Pattern 10-50 Feet (meters)	
<input type="checkbox"/> Hand Sprayer <input type="checkbox"/> Hand Gun <input checked="" type="checkbox"/> Boom <input type="checkbox"/> Backpack <input type="checkbox"/> Fixed Nozzle <input type="checkbox"/> Other (Specify) _____				<input type="checkbox"/> Tank Mix (Conv.) <input checked="" type="checkbox"/> Injection <input type="checkbox"/> Invert		
Operator Name Andrew Bales		Operator Pesticide License No. 71840		Operator Signature		Driver Name Dean Alexander
Remarks shut off for 60 foot water buffer				Buffer Truck Driver's Name		
				Pesticide Sensitivity Registration Applies: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
				Contact		
Division of Emergency Management (1-800-258-5990)				Additional Notes		

DOI Form 540-506 EF
Revised 9/2001

Distribution: OSC Maint. Operator Is gen. File
Send OSC Copy Within 5 Days

OZl=Ounces Dry Lb=Pound
OZl=Ounces Liquid Gal=Gallon
Pt=Pint Qt=Quart
g=gram kg=kilogram
ml=Milliliter L=Liter

Appendix F

Stakeholder List

Grant County Weed Board, PO Box 37, Ephrata, WA 98823.
Adams County Weed Board, 201 W. Broadway, Ritzville, WA 99169
Franklin County Weed Board, 3416 Stearman Avenue, Pasco, WA 99301
City of Ephrata, 121 Alder Street SW, Ephrata, WA 98823
City of Moses Lake, PO Box 1579, Moses Lake, WA 98837
City of Othello, 500 E. Main Street, Othello, WA 99344
City of Soap Lake, PO Box 1270, Soap Lake, WA 98851
City of Quincy,
City of George, PO Box 5277, George, Washington 98824
City of Connell, PO Box 1200, Connell, WA 99326-1200
City of Warden, PO Box 428, Warden, WA 98857
WDFW Region 2, 1550 Alder St. NW, Ephrata, WA 98823-9699
DNR Ellensburg, 713 E Bowers Road, Ellensburg, WA 98926
USBR, 1917 Marsh Road, Yakima, WA 98907-1749
Quincy Columbia Basin Irrigation Dist., Darwin Fales, PO Box 188, Quincy Wa 98848
East Columbia Irrigation Dist., Richard Erickson, PO Box "E", Othello Wa 99344